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EXPERIMENTAL AERODYNAMIC AND ACOUSTIC MODEL
TESTING OF THE VARIABLE CYCLE ENGINE TESTBED COANNULAR
EXHAUST NOZZLE SYSTEM

COMPREHENSIVE DATA REPORT

By
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Commercial Products Division
Pratt & Whitney Aircraft Group
United Technologies Corporation

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CYCLE ENGINE (VCE) TESTBED COANNULAR EXHAUST
NOZZLE SYSTEM: COMPREHENSIVE DATA REPORT
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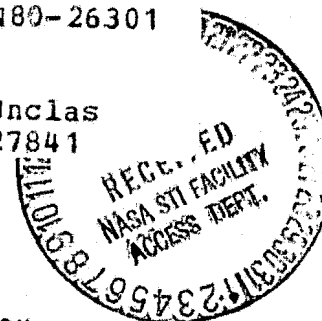
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16. Abstract Aerodynamic performance and jet noise characteristics of a one sixth scale model of the Variable Cycle Engine (VCE) testbed exhaust system were obtained in a series of static tests over a range of simulated engine operating conditions. Model acoustic data were acquired that can be scaled directly to full scale engine data at the same thermodynamic conditions. Data were also compared to predictions of coannular model nozzle performance. The model, tested with and without a hardwall ejector, had a total flow area equivalent to a 0.127 m (5 in) diameter conical nozzle with a 0.65 fan to primary nozzle area ratio and a 0.82 fan nozzle radius ratio. A total of 39 acoustic data points was acquired. Fan stream temperatures and velocities were varied from 422 to 1089 K (760°R to 1960°R) and 434 to 755 m/sec (1423 to 2477 ft/sec). Primary stream properties were varied from 589 to 1089 K (1060°R to 1960°R) and 353 to 600 m/sec (1158 to 1968 ft/sec). Exhaust plume velocity surveys were conducted at one operating condition with and without the ejector installed. Thirty aerodynamic performance data points were obtained with an unheated air supply. Fan nozzle pressure ratio was varied from 1.8 to 3.2 at a constant primary pressure ratio of 1.6; primary pressure ratio was varied from 1.4 to 2.4 while holding fan pressure ratio constant at 2.4. Agreement between the acoustic test data and predictions without the ejector was generally within the accuracy of the prediction procedure. Acoustic data trends obtained by independently varying fan and primary stream properties were generally in agreement with the prediction procedure. Agreement between the measured performance and predicted thrust coefficients without the ejector was within one percent. Measured noise levels with the ejector were slightly higher than without the ejector. However, based on analysis of these and other ejector data, it is expected that a longer ejector would have lowered the noise level. Operation with the ejector increased nozzle thrust coefficient 0.2 to 0.4 percent.					
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TABLE OF CONTENTS

Section	Title	Page
1	SUMMARY	1
2	INTRODUCTION	2
3	MODEL DESIGN DRAWINGS	3
4	INDEX TO ACOUSTIC DATA	9
	4.1 Tabulated Model Scale Data	9
	4.2 Tabulated Data Scaled 12X to Variable Stream Control Engine-502 Size	9
	4.3 Tabulated Data Scaled 6X to Variable Cycle Engine Testbed Size	10
	4.4 Acoustic Predictions for Several Variable Cycle Engine Testbed Points	10
	4.5 Graphical Data Scaled 12X to Variable Stream Control Engine 502 Engine Size	10
5	INDEX TO AERODYNAMIC DATA	14
	5.1 Tabulated Data	14
	5.2 Graphical Data	14
6	ACOUSTIC TEST DATA	
	6.1 Acoustic Tabulated Data	A1/D13
	6.2 Acoustic Graphical Data	E1/E48
7	AERODYNAMIC TABULATED DATA	
	7.1 Aerodynamic Tabulated Data	F1/F3
	7.2 Aerodynamic Graphical Data	F4/F20

1. SUMMARY

Experimental testing was conducted during this phase of the Coannular Nozzle Model Technology Program (Contract NAS3-20061) with a one-sixth scale model of the Variable Cycle Engine testbed exhaust nozzle system. Model acoustic data were obtained to predict noise levels of the Variable Cycle Engine testbed.

Tests were conducted over a range of simulated engine operating conditions, both with and without a hardwall ejector, to allow comparison of noise data at the same thermodynamic conditions. Data were compared to the prediction method developed in Phase II of the Coannular Nozzle Technology Program and presented in NASA CR-3168. In addition to the acoustic data, aerodynamic data were obtained to characterize nozzle performance.

This Comprehensive Data Report (CDR) contains the design drawings of the model components and the basic acoustic and aerodynamic data acquired during the program. A complete description of the test hardware and facilities is contained in the companion Final Report (CR-159710, PWA-5550-31), along with the major results and findings of the program.

Acoustic data presented in this Comprehensive Data Report are scaled to a full-scale engine and the size of the Variable Cycle Engine Testbed Demonstrator, and are corrected to an FAA Standard Day.

2. INTRODUCTION

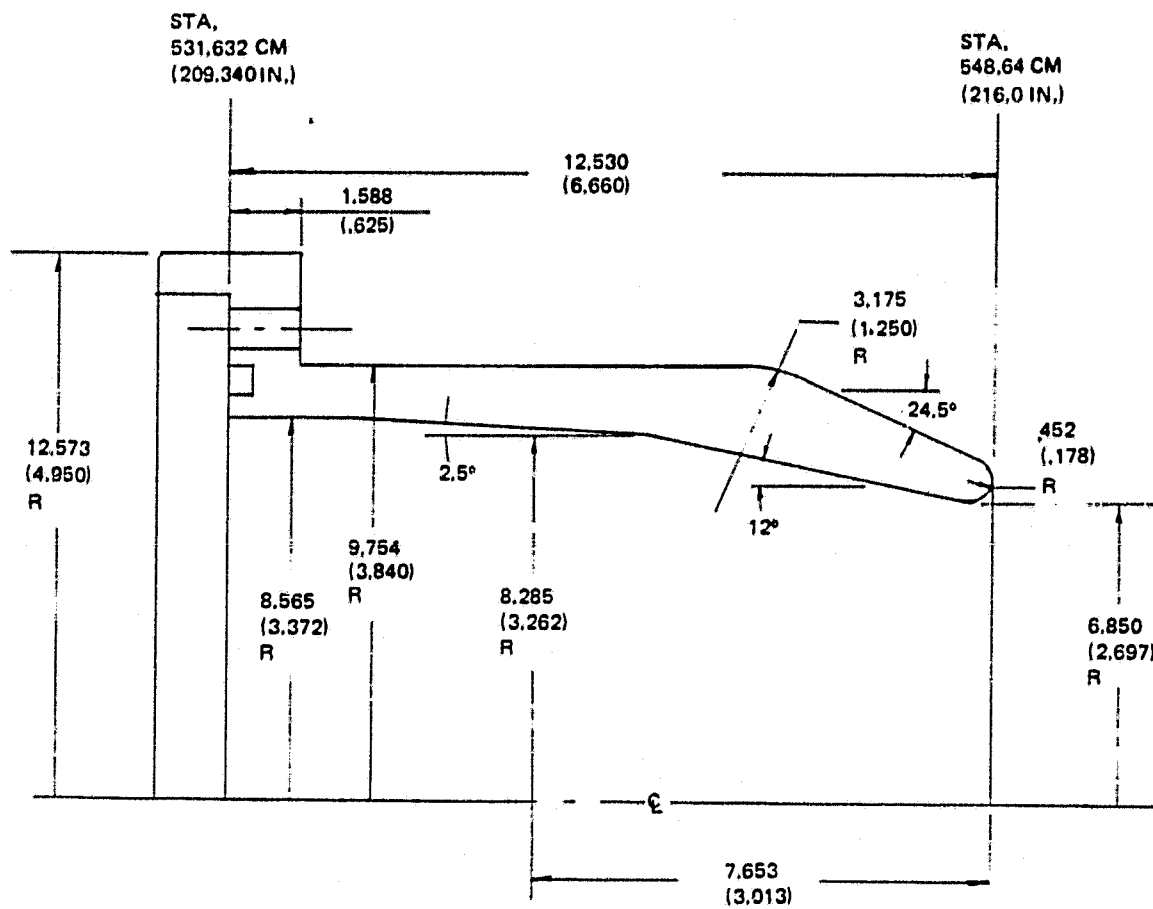
This Comprehensive Data Report (CDR) contains the component detail design drawings of the one-sixth scale model of the Variable Cycle Engine testbed demonstrator exhaust system tested in this program. Also provided are the basic acoustic and aerodynamic data acquired during the experimental model tests. This work was performed as part of Task II of the NASA-sponsored Coannular Nozzle Model Technology Program (Contract NAS3-20061).

The model drawings are presented in Section 3 of this report. An index to the acoustic data is provided in Section 4, and a similar index to the aerodynamic data is provided in Section 5. Section 6 presents the tabulated and graphical acoustic data, and the tabulated aerodynamic data and graphs are contained in Section 7.

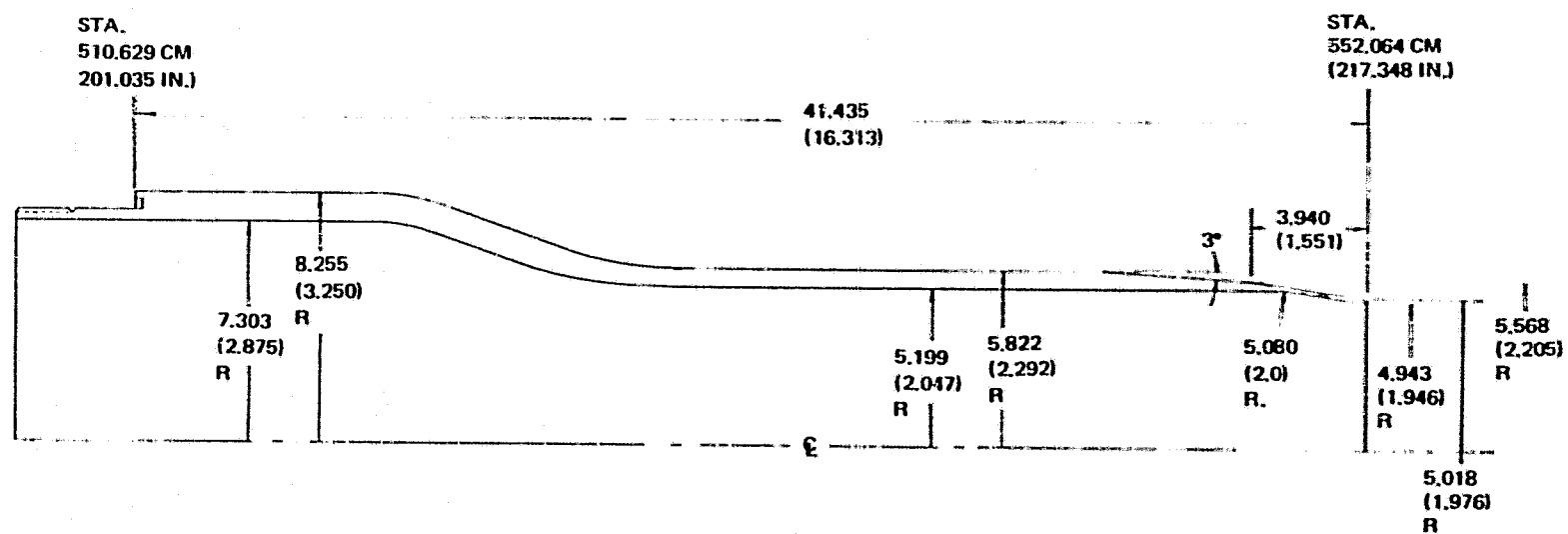
3. MODEL DESIGN DRAWINGS

This section contains an assembly drawing of the model test hardware and detailed drawings of the nozzle components tested in this program. The drawings provide the information necessary to manufacture the individual components. The nozzle model consists of four items: the fan duct cowl, the primary afterbody/nozzle, ejector, and ejector support assembly.

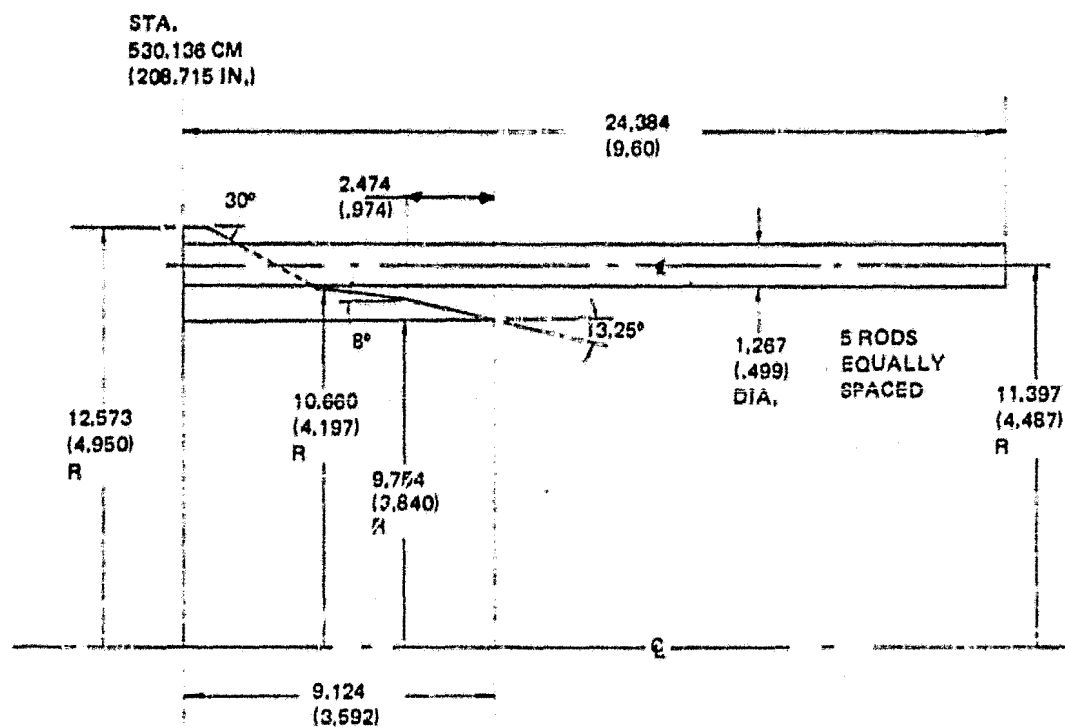




FAN DUCT COWL



PRIMARY AFTERBODY/NOZZLE



EJECTOR SUPPORT ASSEMBLY

4. INDEX TO ACOUSTIC DATA

The acoustic test matrix, with nominal operating conditions, is shown in Table 4-1. The heading on each page of tabulated acoustic data contains information about nozzle areas and actual operating conditions for the fan and primary streams, and ambient conditions. The test point number is given at the upper right corner of each page of tabulated data.

Table 4-2 provides the page numbers to locate acoustic data for any particular test point. For example, consider test point 6. Model size data are found on page A6, Variable Stream Control Engine 502 scale data on page B6 and testbed scale data on page C6. Predicted jet noise at the conditions of test point 6 is found on page D-6. Plotted data for this point is found on pages E5-E8.

4.1 Tabulated Model Scale Data

Tabulated model scale data at the recording radius of 4.57 m (15 ft.), are referenced to a "theoretical day"; (i.e., calculated losses due to atmospheric attenuation were added to the measured sound pressure levels). Sound pressure levels are shown from 50 to 100,000 Hz and at angles every ten degrees from 60 to 160 degrees from the upstream axis. Overall sound pressure levels, calculated from sound pressure levels of 50 to 100,000 Hz, are shown for each angle, as well as power spectra and overall power level. The test points shown include single jet points, coannular nozzle points, and ejector with and without tone suppressor points.

4.2 Tabulated Data Scaled 12X to Variable Stream Control Engine-502 Size

The tabulated data are presented in the following manner: scaled 12X to Variable Stream Control Engine-502 size, sound pressure levels from 50 to 10,000 Hz and every ten degrees from 60 to 160 degrees from the upstream axis, overall sound pressure level, power spectra, and overall power level at a 45.7 m (150 ft.) radius. In addition, the perceived noise levels are shown at a 45.7 m (150 ft.) radius and 61.0 m (200 ft.), 112.8 m (370 ft.), 243.8 m (800 ft.) and 648.6 m (2128 ft.) side-lines. The data in this section are referenced to a Federal Aviation Administration Standard Day of 298K and 70% humidity. Test points shown include coannular nozzle points and ejector with and without tone suppressor points. Additional information about the Variable Stream Control Engine may be found in the final report and in references 1 and 3 of the final report.

4.3 Tabulated Data Scaled 6X to Variable Cycle Engine Testbed Size

Sound pressure levels from 50 to 10,000 Hz and every ten degrees from 60 to 160 degrees from the upstream axis, overall sound pressure levels, power spectra and overall power levels are shown at a radius of 27.4 m (90 ft.). Perceived noise levels at a 27.4 m (90 ft.) radius and 61.0 (200 ft.) 112.8 (370 ft.), 243.8 (800 ft.) and 648.6 m (2128 ft.) sidelines are shown. Data in this section are referenced to a Federal Aviation Administration (FAA) Standard Day (298K and 70% humidity). Test points shown include data from a coannular nozzle and the ejector nozzle with and without tone suppressors.

4.4 Acoustic Predictions of Data Scaled to Variable Cycle Engine Testbed Size

Jet noise was predicted for scaled model test points by a method developed during the Coannular Nozzle Technology Program and reported in NASA CR-3168. The test points for which predictions are presented are indicated in Table 4-2. Predicted sound pressure levels from 50 - 10,000 Hz and every ten degrees from 60 to 160 degrees from the upstream axis are shown at a radius of 27.4 m (90 ft.). Perceived noise levels and overall sound pressure levels are shown for each angle. The predictions are made for a Federal Aviation Administration Standard Day.

4.5 Graphical Data Scaled 12X to Variable Stream Cycle Engine-502 Engine Size

Sound pressure level spectra at a 45.7 m (150 ft.) radius are shown for the 90, 120 and 150 degree angles from the upstream axis. Data are also plotted to show perceived noise level directivity at a 648.6 m (2128 ft.) sideline. The data are referenced to a Federal Aviation Administration (FAA) Standard Day (298K and 70% humidity). Data are shown for the coannular nozzle and the ejector nozzle with tone suppressors.

TABLE 4-1

ACOUSTIC TEST MATRIX
NOMINAL OPERATING CONDITIONS

Test Pt.	P_{tf}/P_a	T_{tf} K (°R)	V_f m/sec(ft/sec)	P_{tp}/P_a	T_{tp} K (°R)	V_p m/sec(ft/sec)
1	2.40	1089(1960)	702(2303)	1.60	800(1440)	451(1479)
2	2.40	1000(1800)	672(2206)	1.60	800(1440)	451(1479)
3	2.40	922(1660)	645(2116)	1.60	800(1440)	451(1479)
4	2.40	700(1260)	561(1839)	1.60	800(1440)	451(1479)
5	2.40	589(1060)	513(1684)	1.60	800(1440)	451(1479)
6	2.20	1089(1960)	670(2197)	1.60	800(1440)	451(1479)
7	2.80	1089(1960)	755(2476)	1.60	800(1440)	451(1479)
8	2.60	1089(1960)	730(2395)	1.60	800(1440)	451(1479)
9	2.80	700(1260)	602(1975)	1.60	800(1440)	451(1479)
10	2.60	922(1660)	671(2201)	1.60	800(1440)	451(1479)
11	2.20	922(1660)	615(2019)	1.60	800(1440)	451(1479)
12	2.00	1089(1960)	637(2091)	1.60	800(1440)	451(1479)
13	2.00	700(1260)	503(1650)	1.60	800(1440)	451(1479)
14	2.40	1089(1960)	702(2303)	1.60	1089(1960)	527(1728)
15	2.40	1089(1960)	702(2303)	1.60	922(1660)	484(1589)
16	2.40	1089(1960)	702(2303)	1.60	589(1060)	386(1267)
17	2.40	1089(1960)	702(2303)	2.00	589(1060)	462(1516)
18	2.40	1089(1960)	702(2303)	1.40	589(1060)	329(1081)
19	2.10	889(1600)	587(1927)	2.08	850(1530)	571(1873)
20	1.93	933(1679)	566(1858)	1.93	933(1679)	566(1858)
21	2.34	903(1625)	630(2067)	1.79	817(1471)	504(1652)
22	2.10	1072(1930)	649(2130)	1.37	718(1292)	353(1158)
23	2.25	1072(1930)	668(2190)	1.47	753(1356)	397(1301)
24	2.50	1089(1960)	717(2351)	1.53	811(1460)	433(1420)
25	3.20	1089(1960)	796(2612)	1.53	811(1460)	433(1420)
26	2.40	478(860)	434(1423)	1.60	800(1440)	451(1479)
27	3.20	1089(1960)	796(2611)	1.60	800(1440)	451(1479)
29	3.20	700(1260)	635(2082)	1.60	800(1440)	451(1479)
29	2.40	1089(1960)	702(2303)	2.40	800(1440)	600(1968)
30	2.00	857(1543)	463(1848)	2.00	857(1543)	563(1848)
38	2.40	1089(1960)	702(2303)	1.40	800(1440)	385(1262)
1E	2.40	1089(1960)	702(2303)	1.60	800(1440)	451(1479)
3E	2.40	922(1660)	645(2116)	1.60	800(1440)	451(1479)
4E	2.40	700(1260)	561(1839)	1.60	800(1440)	451(1479)
19E	2.10	889(1600)	587(1927)	2.08	850(1530)	571(1873)

TABLE 4-1 (Cont'd.)

Test Pt.	P_{tf}/P_a	T_{tf} K (°R)	V_f m/sec(ft/sec)	P_{tp}/P_a	T_{tp} K (°R)	V_p m/sec(ft/sec)
1P	-----			1.60	800(1440)	451(1479)
14P	-----			1.60	1089(1960)	527(1728)
15P	-----			1.60	922(1660)	484(1589)
17P	-----			2.00	589(1060)	462(1516)

NOTES: 1) All values normalized to Federal Aviation Administration (FAA) standard day conditions ($T_a = 298^\circ\text{K}$ (537°R), relative humidity = 70%)

E = Operation with the ejector installed

P = Operation with only primary flow

2) Actual nozzle and ambient test conditions are listed in heading of acoustic tabulated data

TABLE 4-2

PAGE NUMBERS OF ACOUSTIC DATA

TEST Pt	Tabular Data			Predictions Testbed Size	Plotted Data			
	Model Size	VSCE 502 Size	Testbed Size		90° Spectra	120° Spectra	150° Spectra	PNL Directivity
1	A1	B1	C1	D1	E1	E2	E3	E4
2	A2	B2	C2	D2	E1	E2	E3	E4
3	A3	B3	C3	D3	E1	E2	E3	E4
4	A4	B4	C4	D4	E1	E2	E3	E4
5	A5	B5	C5	D5	E1	E2	E3	E4
6	A6	B6	C6	D6	E5	E6	E7	E8
7	A7	B7	C7	D7	E9	E10	E11	E12
8	A8	B8	C8	D8	E13	E14	E15	E16
9	A9	B9	C9	D9	E9	E10	E11	E12
10	A10	B10	C10	D10	E13	E14	E15	E16
11	A11	B11	C11	D11	E5	E6	E7	E8
12	A12	B12	C12	D12	E17	E18	E19	E20
13	A13	B13	C13	D13	E17	E18	E19	E20
14	A14	B14	C14		E21	E22	E23	E24
15	A15	B15	C15		E21	E22	E23	E24
16	A16	B16	C16		E21	E22	E23	E24
17	A17	B17	C17		E25	E26	E27	E28
18	A18	B18	C18		E29	E30	E31	E32
19	A19	B19	C19		E33	E34	E35	E36
20	A20	B20	C20		E33	E34	E35	E36
21	A21	B21	C21		E37	E38	E39	E40
22	A22	B22	C22		E37	E38	E39	E40
23	A23	B23	C23		E37	E38	E39	E40
24	A24	B24	C24		E37	E38	E39	E40
25	A25	B25	C25		E37	E38	E39	E40
26	A26	B26	C26		E1	E2	E3	E4
27	A27	B27	C27		E41	E42	E43	E44
28	A28	B28	C28		E41	E42	E43	E44
29	A29	B29	C29		E25	E26	E27	E28
30	A30	B30	C30		E33	E34	E35	E36
38	A31	B31	C31		E29	E30	E31	E32
1E*	A32	B32	C32		E45	E46	E47	E48
3E	A33	B33	C33		E45	E46	E47	E48
4E	A34	B34	C34		E45	E46	E47	E48
19E	A35	B35	C35		E45	E46	E47	E48
1ET**	A36	B36	C36	-	-	-	-	-
3ET	A37	B37	C37	-	-	-	-	-
4ET	A38	B38	C38	-	-	-	-	-
19ET	A39	B39	C39	-	-	-	-	-
1P***	A40	-	-	-	-	-	-	-
14P	A41	-	-	-	-	-	-	-
15P	A42	-	-	-	-	-	-	-
17P	A43	-	-	-	-	-	-	-

* Ejector installed with tone suppressors

** Ejector installed without tone suppressors

*** Primary flow only

5. INDEX TO AERODYNAMIC DATA

The presentation of aerodynamic data is organized by tabulated data and graphical data.

5.1 Tabulated Data

This section includes traverse exhaust plume velocity and temperature data acquired during the acoustic tests, and nozzle thrust and discharge coefficient data obtained in the nozzle performance test facility.

The exhaust plume traverse data, local temperature and velocity measurements, are tabulated for each of the five axial traverse stations downstream of the fan nozzle exit plane, as shown in the traverse location index in Table 5-1. Each complete set of data is identified by configuration (with or without the ejector) and nozzle operating conditions at the top of the data set, as shown on page 15. For each of the five traverse locations (L), the local flow temperature (T_t) and velocity (V) are tabulated as a function of probe radial location (R) from the centerline of the nozzle.

Nozzle thrust and discharge coefficient data are tabulated over the range of operating conditions tested for each nozzle configuration and run number, as shown in Table 5-2. Each set of nozzle performance data is identified by configuration and run number (RUN) at the top of the data set as shown on page 15. The data are tabulated by ascending point number (PT) for the following parameters: fan nozzle pressure ratio (P_{tf}/P_a), primary nozzle pressure ratio (P_{tp}/P_a), thrust coefficient (C_T), fan discharge coefficient (C_{Df}), primary discharge coefficient (C_{Dp}).

5.2 Graphical Data

This section contains curves of measured nozzle performance and profiles of exhaust nozzle velocity and temperature.

Each curve of nozzle performance is identified by configuration (with or without the ejector) as well as nozzle operating conditions. In each figure, thrust coefficient curves are presented first, followed by fan and primary discharge coefficient plots.

Each profile of exhaust velocity and temperature is identified by configuration (either with or without the ejector) and the axial measurement location (L) downstream of the fan nozzle exit plane. The operating conditions are also identified in each curve. The velocity profiles are presented first in order of increasing downstream measurement station, followed by temperature profiles, which are presented in the same order.

TABLE 5-1

TRAVERSE LOCATION INDEX

Sta. No. <u>(in)</u>	With Ejector	Sta. No.	Without Ejector
	<u>Axial Location from Fan Nozzle Exit -Lcm (in)</u>		<u>Axial Location from Fan Nozzle Exit -Lcm(in)</u>
1A	18.49(7.28)	1	11.43 (4.5)
2	29.21(11.5)	2	29.21(11.5)
3	44.45(17.5)	3	44.45(17.5)
4	58.93(23.2)	4	58.93(23.2)
5	88.14(34.7)	5	88.14(34.7)

TABLE 5-2

PERFORMANCE DATA INDEX

<u>Config.</u>	<u>Fan Pressure Ratio</u>	<u>Primary Pressure Ratio</u>	<u>Run No.</u>
Without Ejector	1.8 - 3.2	1.6	20
Without Ejector	2.4	1.4 - 2.4	24
With Ejector	1.8 - 3.2	1.6	25
With Ejector	2.4	1.4 - 2.4	26
Pri. Flow Alone	-----	1.4 - 3.2	16

6.1

ACOUSTIC
TABULATED DATA

20108F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20108 CONDITION 1

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	88.0(F)	31.1(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.10IN	1.02BAR	P.R.		1.59	2.39		1.59	2.39	THRUST,IDL	LB	164.1	229.2	N	730	1019			
REL H	37.0%		TEMP	(R)	1464.0	2008.	(K)	813.3	1115.6	THRUST,MEA	LB	0.0	0.0	N		0.0			
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.493	0.393	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1484.7	2327.8	M/S	452.5	709.5	H (MODEL)	LB/S	3.6	3.2	KG/S	1.6	1.4			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.4	89.8	92.1	92.7	88.2	93.3	94.5	96.8	98.7	102.7	107.0	119.1
.125	88.1	90.9	92.7	94.7	93.5	95.6	97.8	101.8	104.0	106.0	108.4	122.3
.160	93.5	94.9	93.6	93.5	91.0	94.2	94.7	96.6	102.0	106.4	109.9	121.8
.200	91.9	90.6	90.6	92.5	93.4	95.4	97.1	99.5	105.7	110.1	112.7	124.6
.250	92.6	91.9	93.4	94.8	96.5	97.7	99.2	102.3	107.5	112.2	115.2	126.8
.315	94.2	93.2	94.9	96.7	98.8	101.0	101.4	105.4	109.9	114.7	118.8	129.7
.400	97.3	96.6	97.5	98.1	101.0	102.4	104.7	108.9	114.1	118.1	119.9	132.5
.500	98.3	97.6	98.8	100.1	102.3	102.9	105.3	109.7	116.4	119.9	120.9	134.1
.630	99.8	99.3	100.5	101.9	104.3	104.7	107.1	112.1	117.7	121.1	121.7	135.4
.800	100.0	100.4	101.5	102.6	105.8	105.5	107.9	112.7	117.8	121.7	121.2	135.7
1.00	100.3	101.1	102.1	103.1	107.1	107.3	109.8	113.1	117.9	121.0	120.9	135.6
1.25	100.0	102.0	103.0	103.8	107.5	107.1	110.1	113.1	116.3	119.4	120.4	134.7
1.60	100.5	101.3	102.8	103.6	107.6	107.6	110.2	113.0	115.3	118.0	119.3	133.9
2.00	100.2	101.4	103.1	104.1	107.9	107.9	110.8	112.9	114.3	116.8	118.2	133.3
2.50	100.9	101.6	103.3	104.8	108.8	108.7	111.6	112.9	114.1	116.9	118.1	133.5
3.15	101.7	102.1	103.5	105.0	109.2	109.2	112.1	113.0	114.4	117.4	118.3	133.9
4.00	102.3	102.4	104.0	105.5	109.6	110.2	112.7	113.2	115.2	118.7	118.4	136.6
5.00	102.6	102.1	103.6	105.3	109.8	110.4	112.6	113.0	116.0	118.9	117.5	134.7
6.30	102.2	102.1	103.5	105.6	110.0	110.8	113.0	113.7	117.3	118.5	115.9	134.9
8.00	101.0	101.9	103.5	105.6	110.3	110.8	113.0	113.9	117.6	116.8	113.9	134.6
10.0	100.0	101.7	103.7	105.6	110.3	111.2	112.8	114.1	117.0	115.3	112.5	134.2
12.5	101.1	101.2	103.3	105.2	109.9	110.7	112.5	113.5	115.3	113.6	110.6	133.2
16.0	101.2	101.8	103.1	104.9	109.6	110.3	111.6	113.0	114.1	112.5	109.6	132.5
20.0	98.8	100.5	102.4	104.4	108.0	108.7	110.4	111.4	112.1	111.0	107.4	131.0
25.0	97.0	99.2	101.9	103.7	107.3	108.3	109.5	110.8	112.0	110.0	106.5	130.4
31.5	95.7	97.5	100.1	102.4	106.7	107.4	108.0	109.4	111.0	108.9	105.1	129.2
40.0	94.6	96.8	99.3	101.8	106.1	107.0	108.0	109.2	110.6	108.4	104.3	128.8
50.0	93.8	95.1	98.3	100.6	105.0	105.6	107.1	108.6	110.4	108.5	104.4	128.2
63.0	92.2	94.0	97.6	99.5	104.0	105.1	106.6	108.5	110.9	109.1	104.1	128.1
80.0	91.7	94.2	97.7	99.1	104.1	106.0	108.1	110.2	112.6	110.8	105.6	129.5
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 147.3

OSPL 113.7 114.4 116.0 117.6 121.7 122.3 124.3 126.1 129.2 131.3 131.5

20106F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 02

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.59	2.38		1.59	2.38	THRUST,IDL	LB	163.2	227.6	N	726	1012
REL H	38.0%		TEMP	(R)	1466.0	1825.	(K)	814.4	1013.9	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.027	KG/M3	0.492	0.434	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1484.1	2214.1	M/S	452.4	674.9	W (MODEL)	LB/S	3.5	3.3	KG/S	1.6	1.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.7	89.4	91.7	92.1	87.9	93.0	94.3	96.6	98.7	102.7	106.9	119.0
.125	87.6	90.5	91.9	93.3	92.4	94.9	96.1	100.1	102.9	105.1	107.9	121.3
.160	92.9	94.5	93.3	93.0	90.5	93.7	94.2	96.0	101.8	106.1	109.5	121.4
.200	91.4	90.4	90.2	92.0	92.8	95.2	97.2	99.3	105.4	109.8	112.2	124.3
.250	92.3	91.7	92.8	94.2	96.1	97.3	99.1	102.2	107.3	112.3	115.4	126.9
.315	93.8	92.9	94.5	96.3	98.1	100.4	101.0	105.2	109.5	114.5	118.6	127.4
.400	96.8	96.4	97.4	97.7	100.9	102.2	104.5	108.8	113.8	117.9	119.6	132.3
.500	97.9	97.3	98.6	99.9	102.0	102.5	105.2	109.4	116.0	119.8	120.5	133.8
.630	99.6	99.0	100.1	101.7	104.2	104.5	106.9	112.0	117.6	121.0	121.6	135.3
.800	99.7	100.2	101.2	102.2	105.8	105.3	107.6	112.5	117.8	121.7	121.1	135.7
1.00	100.1	100.9	101.9	102.9	106.9	107.1	109.5	112.9	117.8	120.9	120.9	135.5
1.25	99.7	101.6	102.8	103.5	107.1	106.9	109.9	112.9	116.3	119.4	120.2	134.6
1.60	100.4	101.0	102.3	103.3	107.2	107.4	109.9	112.8	115.3	117.9	119.0	133.7
2.00	99.9	101.0	102.6	103.6	107.5	107.5	110.3	112.6	114.0	116.5	117.9	132.9
2.50	100.5	101.3	102.8	104.3	108.3	108.4	111.1	112.6	113.8	116.2	117.7	133.0
3.15	101.3	101.7	102.9	104.4	108.6	108.8	111.5	112.6	113.8	116.7	117.7	133.3
4.00	101.8	101.9	103.5	105.0	109.2	109.7	112.1	112.7	114.3	117.8	118.0	133.9
5.00	102.1	101.7	103.0	104.9	109.2	109.9	111.9	112.4	115.0	118.3	117.2	134.1
6.30	101.8	101.7	103.1	105.0	109.4	110.1	112.3	113.0	116.4	118.0	115.9	134.3
8.00	100.4	101.6	103.0	105.0	109.8	110.3	112.2	113.0	116.7	116.6	114.1	134.0
10.0	99.8	101.5	103.0	105.2	109.6	110.5	112.2	113.1	116.5	115.2	112.6	133.6
12.5	101.0	101.1	102.6	104.5	109.1	110.1	111.9	112.4	114.8	113.5	110.7	132.6
16.0	101.5	102.1	102.7	104.5	108.9	109.5	111.0	111.9	113.6	112.4	109.6	131.9
20.0	99.2	100.9	102.5	104.1	107.3	108.3	109.7	110.5	111.7	110.8	107.5	130.5
25.0	96.9	99.1	101.5	103.4	106.7	107.6	108.7	109.7	111.5	109.8	106.6	129.8
31.5	95.6	97.4	99.7	102.1	106.2	106.6	107.3	108.4	110.4	108.6	105.3	128.6
40.0	94.3	96.9	98.8	101.5	105.6	106.1	107.1	108.1	110.0	108.1	104.3	128.1
50.0	93.5	95.1	97.6	100.0	104.4	104.6	106.0	107.5	109.6	108.3	104.5	127.4
63.0	92.2	94.1	96.9	99.1	103.3	104.2	105.7	107.5	110.2	108.9	104.0	127.4
80.0	91.8	94.4	97.0	98.8	103.4	104.9	107.0	109.2	112.0	110.2	105.7	128.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 146.9

OSPL 113.5 114.2 115.6 117.2 121.2 121.7 123.7 125.5 128.7 131.1 131.3

 ORIGINAL PAGE IS
 UNREPRODUCIBLE

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 03

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	85.0(F)	29.4(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.10IN	1.02BAR	P.R.		1.61	2.38		1.61	2.38	THRUST,IDL	LB	166.2	226.9	H	739	1009			
REL H	39.0%		TEMP	(R)	1467.0	1683.	(K)	815.0	935.0	THRUST,NEA	LB		0.0	H		0.0			
SOSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.493	0.472	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1498.6	2124.1	M/S	456.8	647.4	W (MODEL)	LB/S	3.6	3.4	KG/S	1.6	1.6			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.5	89.1	91.4	91.9	87.6	92.6	93.9	96.0	98.2	102.2	106.6	118.6
.125	87.8	90.5	91.5	92.4	91.7	94.5	94.7	98.4	101.6	104.2	107.3	120.3
.160	92.9	94.4	93.0	92.8	90.4	93.5	93.9	95.6	101.2	105.8	109.3	121.1
.200	91.1	90.1	90.2	92.3	93.1	95.2	96.8	99.3	105.5	109.9	112.2	124.3
.250	92.0	91.4	92.6	94.2	95.9	97.2	98.9	101.9	107.2	111.9	115.1	126.6
.315	93.4	92.7	94.5	96.1	98.3	100.4	100.9	105.0	109.5	114.3	118.5	129.3
.400	96.3	96.1	97.2	97.7	100.7	102.4	104.3	108.5	113.7	117.8	119.4	132.1
.500	97.7	97.3	98.5	99.6	101.9	102.6	105.1	109.3	116.0	119.8	120.6	133.9
.630	99.6	98.8	99.9	101.4	104.0	104.5	106.8	111.9	117.7	121.1	121.6	135.3
.800	99.5	99.9	101.1	102.1	105.5	105.0	107.5	112.5	117.9	121.6	121.0	135.6
1.00	99.9	100.7	101.7	102.9	106.8	106.8	109.3	113.0	118.0	121.0	120.9	135.6
1.25	99.7	101.5	102.8	103.3	106.9	106.7	109.6	112.8	116.6	119.5	120.2	134.6
1.60	100.2	100.9	102.1	103.1	106.9	107.1	109.7	112.6	115.5	118.2	119.0	133.8
2.00	99.6	100.8	102.4	103.3	107.3	107.2	110.1	112.4	114.2	116.3	117.6	132.8
2.50	100.0	100.8	102.5	103.8	107.9	108.0	110.5	112.4	113.6	115.8	117.0	132.6
3.15	100.9	101.4	102.6	103.8	108.2	108.4	110.9	112.2	113.3	115.8	117.1	132.7
4.00	101.3	101.5	102.9	104.4	108.5	108.9	111.4	112.2	113.4	116.8	117.1	133.1
5.00	101.6	101.2	102.6	104.1	108.5	109.1	111.0	111.6	113.5	117.0	116.4	133.0
6.30	101.1	101.2	102.5	104.4	108.6	109.3	111.4	111.9	114.5	116.9	115.5	133.1
8.00	99.9	100.9	102.4	104.2	109.0	109.3	111.4	111.6	114.9	116.1	113.5	132.9
10.0	99.3	100.9	102.4	104.2	108.7	109.4	111.0	111.7	115.0	114.6	112.2	132.5
12.5	100.7	100.6	101.9	103.7	108.1	108.9	110.6	110.9	113.5	112.5	110.1	131.5
16.0	101.4	101.9	102.0	103.6	107.8	108.5	109.8	110.5	112.2	111.5	108.8	130.8
20.0	98.8	100.6	101.8	103.3	106.3	107.1	108.5	108.9	110.2	109.8	106.8	129.3
25.0	96.5	98.6	101.0	102.5	105.6	106.5	107.3	108.1	109.9	108.9	105.9	128.5
31.5	95.1	96.9	99.0	101.3	105.0	105.5	105.9	106.8	108.8	107.6	104.5	127.3
40.0	94.0	96.4	98.3	100.5	104.5	104.9	105.7	106.4	108.1	107.1	103.6	126.8
50.0	93.2	94.5	96.9	99.1	103.4	103.6	104.6	105.5	107.7	107.1	103.6	126.0
63.0	91.5	93.5	96.4	98.1	102.3	103.1	104.1	105.2	108.2	107.5	103.5	125.8
80.0	91.1	93.7	96.2	97.7	102.2	103.6	105.1	106.6	109.6	108.9	105.0	126.8
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 146.4

OSPL 113.1 113.8 115.1 116.6 120.5 121.0 122.9 124.8 128.1 130.7 131.1

20180F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 04

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.10IN	1.02BAR	P.R.		1.61	2.41		1.61	2.41	THRUST,IDL	LB	164.0	227.6	N	729	1013			
REL H	25.0Z		TEMP	(R)	1463.0	1278.	(K)	812.8	710.0	THRUST,MEA	LB		0.0	N		0.0			
SDSPD	1145FPS	349H/S	RHO	LB/FT3	0.031	0.039	KG/M3	0.494	0.630	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1496.0	1855.7	M/S	456.0	565.6	W (MODEL)	LB/S	3.5	3.9	KG/S	1.6	1.8			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.7	88.5	90.4	91.1	90.7	91.9	93.8	95.4	97.4	101.4	105.9	118.0
.125	87.1	89.7	90.3	91.1	93.2	93.6	93.2	95.9	100.1	103.2	106.4	119.2
.160	91.7	93.2	92.3	91.9	90.9	92.5	93.4	95.1	100.9	105.3	108.7	120.6
.200	89.9	89.7	89.8	91.9	93.3	94.5	96.5	98.6	104.5	109.1	111.3	123.5
.250	91.0	90.7	92.0	93.3	94.7	96.2	98.1	101.0	106.4	110.8	114.0	125.6
.315	92.3	91.9	93.7	95.3	96.6	99.7	100.3	104.2	108.8	113.5	117.6	128.5
.400	95.6	95.5	96.9	97.7	99.3	101.8	103.6	107.9	113.1	117.0	118.6	131.4
.500	97.1	96.9	98.1	98.9	99.7	101.9	104.2	108.5	115.2	118.9	119.7	133.0
.630	99.5	98.8	99.6	101.2	101.6	103.7	106.1	111.4	117.3	120.6	120.8	134.8
.800	99.3	99.5	100.1	101.5	102.9	104.6	106.9	112.0	118.0	121.4	120.2	135.3
1.00	99.8	100.3	101.0	102.3	104.0	106.5	108.8	112.5	117.9	120.8	120.3	135.2
1.25	99.4	100.9	102.0	103.0	104.1	106.1	108.8	112.3	116.7	119.5	119.7	134.4
1.60	99.4	100.1	101.2	102.4	103.8	106.5	108.8	112.3	115.4	118.1	118.5	133.4
2.00	98.8	99.6	101.1	102.3	103.9	106.3	109.2	111.8	114.0	116.2	117.2	132.2
2.50	98.8	99.5	101.0	102.6	104.4	107.0	109.5	111.8	113.3	115.8	116.8	132.0
3.15	99.4	99.9	101.1	102.7	104.5	107.2	109.8	111.7	113.0	115.6	116.6	131.9
4.00	99.9	100.0	101.6	103.2	105.0	107.8	110.1	111.6	112.8	116.4	116.8	132.3
5.00	100.2	99.8	101.1	102.9	104.8	107.7	109.8	111.1	112.6	116.6	116.1	132.1
6.30	100.1	100.0	101.1	103.1	104.8	107.9	110.1	111.2	113.3	116.7	115.6	132.2
8.00	99.4	100.0	101.1	103.1	105.2	107.7	110.0	110.8	113.7	116.1	114.7	132.0
10.0	99.6	100.0	101.0	102.9	104.7	107.7	109.7	110.1	112.9	114.4	112.8	131.1
12.5	102.8	101.3	101.1	102.3	104.3	107.1	109.0	109.2	111.6	112.3	110.6	130.0
16.0	103.4	103.3	102.7	102.5	104.0	106.6	108.2	108.4	110.4	111.3	109.3	129.4
20.0	100.3	101.9	103.1	103.4	102.8	105.1	106.9	106.6	108.2	109.6	107.4	128.0
25.0	97.7	99.6	101.8	103.3	102.9	104.9	106.0	105.9	108.1	108.8	106.8	127.4
31.5	96.7	97.9	99.5	101.8	103.4	104.8	105.2	105.1	107.2	107.8	105.8	126.5
40.0	95.9	97.9	99.6	101.5	103.0	105.3	105.6	105.3	106.9	107.7	105.6	126.6
50.0	96.3	97.0	99.2	101.3	102.6	104.7	105.5	105.3	107.1	108.5	106.3	126.6
63.0	95.8	97.2	99.7	101.3	102.5	105.1	105.7	105.7	108.3	109.7	106.8	127.2
80.0	96.4	98.3	100.5	101.6	103.3	105.8	107.1	107.1	110.0	111.4	108.4	128.5
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 145.8

OSPL 113.2 113.7 114.8 116.1 117.5 120.0 122.0 124.0 127.6 130.5 130.6

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 05

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.61	2.40		1.61	2.40	THRUST,IDL	LB	163.8	225.9	N	729	1005
REL H	26.0Z		TEMP	(R)	151.0	1072.	(K)	806.1	595.6	THRUST,MEA	LB	0.0	0.0	N	0.0	0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.047	KG/M3	0.498	0.756	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1489.8	1695.4	M/S	454.1	516.8	W (MODEL)	LB/S	3.5	4.3	KG/S	1.6	1.9

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.1	87.8	89.8	90.6	90.3	91.3	93.2	94.8	96.7	100.8	105.1	117.3
.125	86.7	89.5	89.8	90.3	92.5	93.1	92.5	95.3	99.5	102.5	105.8	118.6
.160	90.8	92.7	91.4	91.4	90.3	92.0	92.7	94.3	99.8	104.4	107.7	119.7
.200	89.5	89.0	89.4	91.6	92.9	94.1	96.0	98.2	103.9	108.3	110.7	122.9
.250	90.5	90.3	91.6	93.0	94.5	95.8	97.4	100.8	105.8	110.4	113.6	125.1
.315	91.7	91.4	93.1	94.8	95.9	99.4	99.7	103.9	108.2	112.9	117.1	128.0
.400	95.0	95.0	96.6	97.1	98.9	101.5	103.3	107.4	112.5	116.4	118.1	130.8
.500	96.6	96.4	97.7	98.5	99.4	101.5	104.0	108.4	114.8	118.3	119.2	132.5
.630	99.1	98.3	99.2	100.7	101.2	103.4	105.7	111.2	116.9	120.2	120.5	134.4
.800	98.9	99.2	99.6	101.1	102.6	104.2	106.4	111.8	117.6	120.8	119.6	134.8
1.00	99.4	99.8	100.5	102.0	103.8	106.1	108.2	112.3	117.8	120.4	119.6	134.9
1.25	99.1	100.3	101.7	102.5	103.8	105.6	108.3	111.9	116.6	118.9	119.1	133.9
1.60	98.7	99.4	100.8	101.7	103.4	105.8	108.3	111.6	115.0	117.4	117.6	132.8
2.00	97.9	99.0	100.6	101.6	103.3	105.7	108.4	111.3	113.5	115.0	115.8	131.4
2.50	97.9	98.8	100.4	101.9	103.6	106.2	108.7	111.2	112.6	114.1	115.0	130.9
3.15	98.4	99.0	100.2	101.8	103.6	106.1	108.7	110.8	111.7	113.2	114.5	130.4
4.00	99.0	99.1	100.7	102.0	103.8	106.5	109.0	110.6	111.1	113.6	114.7	130.5
5.00	99.5	99.1	99.9	101.7	103.6	106.3	108.4	109.7	110.4	113.3	114.3	130.1
6.30	99.3	99.1	100.2	102.0	103.6	106.3	108.7	109.8	110.5	113.4	114.1	130.1
8.00	98.9	99.1	100.0	101.8	103.7	106.1	108.2	109.1	109.7	113.2	113.1	129.7
10.0	99.6	99.5	100.0	101.5	103.3	105.9	107.9	108.3	108.8	111.5	110.9	128.8
12.5	103.7	102.0	100.9	101.2	102.7	105.3	107.3	107.4	107.8	109.3	109.0	128.0
16.0	104.3	104.3	103.4	101.9	102.5	104.7	106.5	106.6	106.8	108.0	107.5	127.7
20.0	100.8	102.5	103.9	103.5	101.9	103.5	105.3	104.8	104.7	106.1	105.6	126.5
25.0	98.3	99.9	102.0	103.5	102.5	103.5	104.3	104.3	104.4	105.1	104.8	125.8
31.5	97.5	98.5	99.8	101.4	103.0	103.5	103.6	103.3	103.2	104.0	104.0	124.9
40.0	96.5	98.3	100.0	101.3	102.3	104.6	104.2	103.6	102.9	103.8	103.9	125.0
50.0	96.6	97.2	99.8	100.8	101.8	103.5	104.1	103.4	102.8	104.5	104.7	124.8
63.0	96.2	97.4	99.8	101.0	101.9	103.6	104.2	103.9	104.0	105.7	105.2	125.2
80.0	96.8	98.6	100.8	101.8	102.8	104.6	105.5	105.4	105.7	107.3	106.7	126.4
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 144.8

OSPL 113.2 113.5 114.5 115.5 116.7 118.9 120.9 123.1 126.5 129.3 129.7

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 06

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.59	2.19		1.59	2.19	THRUST,IDL	LB	162.4	200.2	N	722	890
REL H	37.0%		TEMP	(R)	1469.0	1999.	(K)	816.1	1110.6	THRUST,NEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.024	KG/M3	0.491	0.387	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1485.7	2214.8	M/S	452.8	675.1	W (MODEL)	LB/S	3.5	2.9	KG/S	1.6	1.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES												POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160		
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.4	88.8	91.4	91.7	87.4	92.7	94.1	96.3	98.1	102.1	106.4		118.5
.125	87.0	89.9	92.0	94.0	93.0	95.0	97.1	101.0	103.0	104.8	107.4		121.4
.160	92.5	94.1	93.0	92.5	90.1	93.4	93.9	95.6	101.1	105.4	109.0		120.9
.200	90.9	89.9	90.0	91.9	92.8	94.6	96.3	98.9	105.1	109.3	112.1		123.9
.250	92.1	91.2	92.5	93.8	95.6	96.9	98.4	101.6	106.8	111.6	114.6		126.2
.315	93.4	92.5	94.2	95.7	97.8	99.8	100.4	104.6	109.1	114.0	118.1		128.9
.400	96.4	95.9	97.1	97.4	100.6	101.9	104.1	108.2	113.3	117.2	119.1		131.7
.500	97.5	96.9	98.1	99.3	101.5	102.0	104.6	108.9	115.5	119.1	120.1		133.3
.630	99.3	98.7	99.9	101.2	103.8	104.0	106.5	111.6	117.0	120.5	121.1		134.8
.800	99.3	99.7	100.8	101.8	104.9	104.6	107.1	111.9	117.2	121.1	120.4		135.1
1.00	99.5	100.3	101.4	102.3	106.4	106.4	108.9	112.3	116.9	120.2	120.1		134.8
1.25	99.2	101.1	102.2	102.9	106.7	106.4	109.4	112.4	115.6	118.7	119.4		133.9
1.60	99.8	100.5	102.0	102.8	106.8	107.0	109.4	112.3	114.5	117.2	118.3		133.1
2.00	99.2	100.5	102.3	103.2	107.1	107.1	109.9	112.0	113.3	115.5	116.8		132.2
2.50	99.7	100.9	102.5	103.7	107.8	107.8	110.6	112.0	112.9	115.3	116.5		132.3
3.15	100.7	101.2	102.5	104.0	108.2	108.5	111.1	111.8	113.0	115.6	116.4		132.5
4.00	101.3	101.4	103.1	104.4	108.7	109.1	111.6	112.1	113.4	116.8	115.9		133.2
5.00	101.6	101.2	102.6	104.3	108.8	109.5	111.3	111.7	114.0	117.3	116.1		133.3
6.30	101.3	101.2	102.8	104.6	109.2	109.7	111.9	112.4	115.4	117.3	115.2		133.6
8.00	99.9	101.0	102.6	104.5	109.5	109.8	111.7	112.4	115.8	116.1	113.4		133.4
10.0	98.8	100.7	102.6	104.6	109.3	110.1	111.6	112.4	115.6	114.5	111.8		133.0
12.5	99.0	100.1	102.1	104.1	108.8	109.6	111.2	112.0	114.2	112.8	110.0		132.1
16.0	98.1	99.6	101.5	103.8	108.4	109.1	110.5	111.4	112.7	111.6	108.6		131.2
20.0	96.9	98.1	100.3	103.1	106.8	107.8	109.2	109.8	110.9	109.8	106.8		129.7
25.0	95.4	97.4	99.8	102.0	106.0	107.2	108.0	109.1	110.6	109.0	105.7		129.0
31.5	94.0	96.0	98.5	100.8	105.2	106.2	106.8	107.9	109.5	107.8	104.4		127.8
40.0	92.9	95.1	97.7	100.3	104.6	105.4	106.5	107.3	109.0	107.2	103.6		127.3
50.0	92.0	93.5	96.5	98.9	103.4	103.9	105.3	106.7	108.6	107.3	103.5		126.5
63.0	90.6	92.4	95.8	98.0	102.4	103.4	104.9	106.4	109.1	107.8	103.1		126.4
80.0	90.5	92.9	96.1	97.5	102.3	104.1	106.0	107.9	110.5	109.4	104.6		127.5
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9		36.5

OAPNL = 146.2

OSPL 112.6 113.3 115.0 116.5 120.7 121.2 123.2 124.9 128.0 130.3 130.6

A6

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 07

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.08IN	1.02BAR	P.R.		1.59	2.80		1.59	2.80	THRUST,IDL	LB	159.4	286.9	N	709	1276
REL H	37.0%		TEMP	(R)	1477.0	1995.	(K)	820.6	1108.3	THRUST,MEA	LB		0.0	N		0.0
SOSPD	1148FPS	349M/S	RHO	LB/FT ³	0.030	0.026	KG/M ³	0.488	0.411	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1491.7	2497.0	M/S	454.7	761.1	W (MODEL)	LB/S	3.4	3.7	KG/S	1.6	1.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.2	90.8	93.2	93.5	88.7	93.6	95.5	98.6	100.8	104.5	109.0	120.8
.125	89.1	91.8	93.4	95.2	94.1	95.9	98.1	103.2	105.7	107.7	110.5	123.8
.160	95.2	96.6	95.1	94.8	92.8	95.2	95.9	98.7	103.8	108.3	111.5	123.5
.200	93.2	91.8	91.2	93.1	94.1	96.1	98.1	101.1	107.2	111.8	114.1	126.1
.250	93.9	93.2	93.8	95.5	97.2	98.6	99.9	104.2	108.8	113.8	116.9	128.4
.315	94.9	94.2	95.8	97.5	99.4	101.2	102.2	106.8	110.9	116.3	120.2	131.0
.400	98.5	97.8	98.4	98.8	102.0	103.1	105.6	110.3	115.4	119.4	121.2	133.6
.500	99.4	98.6	99.6	100.9	103.1	103.4	106.2	111.0	117.5	121.5	122.4	135.5
.630	100.7	100.5	101.6	102.8	105.3	105.2	108.0	113.5	119.2	122.7	123.4	136.9
.800	101.0	101.4	102.4	103.5	106.9	106.2	108.9	114.0	119.0	123.3	123.0	137.2
1.00	101.7	102.2	103.4	104.4	108.5	108.1	111.0	114.9	118.9	122.9	123.2	137.3
1.25	101.5	103.6	104.4	105.3	108.8	108.1	111.4	114.9	117.8	121.9	122.7	136.7
1.60	102.3	103.0	104.1	105.2	108.9	108.7	111.9	114.9	117.1	121.0	122.1	136.2
2.00	102.1	103.4	104.6	105.6	109.6	108.9	112.3	114.8	116.5	120.4	121.5	135.8
2.50	102.7	103.5	104.7	106.2	110.1	109.9	113.4	114.9	116.8	120.9	121.7	136.2
3.15	103.6	103.9	105.0	106.5	110.7	110.5	114.2	115.2	117.6	121.6	121.5	136.8
4.00	103.7	103.7	105.2	106.8	111.1	111.2	114.5	115.6	119.0	122.3	120.5	137.3
5.00	103.9	103.8	105.0	107.0	111.5	111.6	114.8	115.7	120.0	121.6	118.5	137.3
6.30	103.6	103.9	105.1	107.2	111.8	112.2	115.0	116.7	120.7	119.8	116.8	137.1
8.00	103.5	104.0	105.3	107.2	112.4	112.5	115.1	117.5	120.1	118.3	114.9	136.9
10.0	103.9	104.8	105.6	107.5	112.3	112.8	114.9	117.5	118.5	117.1	113.3	136.3
12.5	104.0	105.2	106.0	107.2	112.1	112.4	114.6	116.8	117.1	115.5	112.0	135.5
16.0	102.5	104.4	106.2	107.8	111.7	112.1	114.0	116.0	116.4	114.6	110.7	134.9
20.0	100.8	102.3	104.6	107.6	110.7	110.7	112.6	114.3	114.6	113.3	109.0	133.4
25.0	99.8	101.7	103.7	106.0	109.9	110.2	111.7	113.9	114.4	112.5	108.4	132.9
31.5	98.6	100.6	102.8	105.1	109.2	109.4	110.7	112.9	113.7	111.4	107.1	131.9
40.0	97.6	99.9	102.2	104.7	108.7	109.2	110.7	113.0	113.6	111.1	106.9	131.7
50.0	96.7	98.4	101.0	103.5	107.6	107.9	110.0	112.8	113.2	111.6	106.6	131.3
63.0	95.2	97.2	100.8	102.7	107.0	107.8	109.8	113.1	114.2	112.2	106.8	131.5
80.0	95.0	97.2	101.6	102.3	107.3	108.9	111.3	114.9	116.1	114.1	108.2	133.1
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPH1 = 149.5

OSPL 115.6 116.4 117.8 119.5 123.6 123.8 126.3 128.8 131.4 133.6 133.6

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 08

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	88.0(F)	31.1(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.08IN	1.02BAR	P.R.		1.60	2.61		1.60	2.61	THRUST, IQL	LB	164.4	261.2	N	731	1162			
REL H	37.0%		TEMP	(R)	1476.0	2001.	(K)	820.0	1111.7	THRUST, MEA	LB		0.0	N		0.0			
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.489	0.403	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1495.0	2424.0	M/S	455.7	738.8	W (MODEL)	LB/S	3.5	3.5	KG/S	1.6	1.6			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.4	90.3	92.6	92.8	88.3	93.0	94.7	97.1	99.1	103.4	108.0	119.7
.125	88.5	91.3	93.0	95.1	94.0	95.9	97.8	102.0	104.0	106.4	109.5	122.7
.160	94.3	95.8	94.3	94.2	91.8	94.4	95.2	97.0	102.5	107.5	110.8	122.6
.200	92.3	91.2	90.6	92.9	93.9	95.8	97.6	100.0	106.4	111.2	113.4	125.4
.250	93.3	93.0	93.4	95.2	96.8	98.1	99.5	103.2	108.2	113.2	116.2	127.7
.315	94.4	93.8	95.3	96.9	99.1	100.7	101.9	106.1	110.3	115.6	119.8	130.5
.400	97.7	97.2	98.1	98.6	101.5	102.4	105.2	109.5	114.6	119.0	120.7	133.2
.500	98.8	98.1	99.0	100.3	102.6	102.9	105.9	110.4	117.1	121.1	121.8	135.0
.630	100.2	100.0	101.0	102.3	104.9	104.7	107.6	112.8	118.4	121.9	122.6	136.1
.800	100.5	100.9	102.0	103.0	106.4	105.8	108.5	113.2	118.4	122.7	122.2	136.5
1.00	101.1	101.7	102.8	103.7	107.8	107.8	110.5	114.1	118.3	122.1	122.3	136.5
1.25	101.0	102.9	103.8	104.7	108.4	107.7	111.0	114.2	117.1	120.8	121.8	135.8
1.60	101.5	102.3	103.4	104.6	108.3	108.3	111.3	114.1	116.4	120.0	121.0	135.3
2.00	101.2	102.4	104.1	104.9	108.9	108.5	111.6	113.9	115.4	119.1	120.3	134.7
2.50	101.9	102.8	104.1	105.6	109.6	109.3	112.5	114.1	115.6	119.4	120.3	135.1
3.15	102.7	103.2	104.1	105.8	110.0	109.8	113.2	114.2	116.1	120.1	120.2	135.5
4.00	103.0	103.2	104.6	106.0	110.5	110.6	113.6	114.5	117.4	120.9	119.9	136.2
5.00	103.3	102.9	104.3	106.4	110.7	110.9	114.0	114.5	118.2	120.8	118.1	136.3
6.30	103.0	103.0	104.5	106.5	110.9	111.4	114.2	115.2	119.5	119.6	116.5	136.3
8.00	102.0	102.8	104.6	106.5	111.5	111.7	114.1	115.7	119.3	117.8	114.7	136.0
10.0	102.1	103.1	104.4	106.4	111.4	112.0	113.8	116.0	117.9	116.7	113.2	135.4
12.5	103.4	103.7	104.4	106.1	111.1	111.5	113.6	115.6	116.4	115.1	111.7	134.6
16.0	102.1	103.9	105.1	106.3	110.7	111.2	113.1	115.0	115.4	114.1	110.4	134.0
20.0	99.7	101.5	103.9	106.2	109.4	110.0	111.7	113.2	113.7	112.6	108.6	132.5
25.0	98.8	100.3	102.7	105.2	108.9	109.3	110.7	112.7	113.4	111.7	107.8	131.9
31.5	97.9	99.6	101.5	103.9	108.8	108.5	109.7	111.7	112.7	110.5	106.5	131.0
40.0	96.3	98.8	101.0	103.3	107.5	108.0	109.6	111.4	112.4	110.0	105.7	130.5
50.0	95.7	97.1	99.7	102.3	106.4	106.7	109.0	111.1	112.2	110.4	105.8	130.0
63.0	93.9	95.9	99.4	101.3	105.6	106.7	108.6	111.2	112.9	111.1	105.7	130.2
80.0	93.7	95.8	99.8	100.7	105.8	107.5	109.9	113.0	114.6	112.8	107.0	131.5
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPNL = 148.6

OSPL 114.8 115.5 117.0 118.6 122.8 123.0 125.5 127.6 130.4 132.8 132.8

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 49

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.60	2.81		1.60	2.81	THRUST,IDL	LB	162.3	285.7	N	722	1271
REL H	25.0Z		TEMP	(R)	1468.0	1283.	(K)	815.6	712.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.041	KG/M3	0.492	0.653	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1493.6	1995.8	M/S	455.2	608.3	M (MODEL)	LB/S	3.5	4.6	KG/S	1.6	2.1

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.2	89.8	92.0	92.5	92.1	93.4	95.1	96.4	98.7	103.0	107.5	119.4
.125	88.6	91.4	91.9	92.7	94.7	95.1	94.4	97.1	101.3	104.5	107.7	120.5
.160	93.8	95.3	94.1	94.0	93.0	94.3	94.9	96.1	101.8	106.3	110.0	121.9
.200	91.9	91.2	91.3	93.3	94.6	95.1	97.6	99.7	105.8	110.2	112.6	124.7
.250	92.5	92.2	93.7	95.3	96.5	98.0	99.4	102.1	107.5	112.3	115.5	127.0
.315	93.8	93.4	95.0	96.8	98.2	101.5	101.2	105.0	109.7	114.8	119.0	129.8
.400	97.1	96.7	97.9	98.6	100.4	103.0	104.6	108.7	114.3	118.3	120.0	132.6
.500	98.0	98.0	99.2	100.3	101.0	103.3	105.3	109.6	116.5	120.4	121.4	134.4
.630	100.1	99.8	100.6	102.4	103.1	105.0	107.2	112.4	118.5	121.7	122.5	136.0
.800	100.4	100.5	101.2	102.8	104.1	105.8	107.9	112.9	119.1	122.8	122.1	136.7
1.00	100.6	101.6	102.1	103.8	105.5	108.0	110.0	113.5	119.5	122.8	122.7	137.0
1.25	100.4	101.9	103.0	104.1	105.4	107.4	110.1	113.4	118.2	121.3	121.8	136.0
1.60	100.4	101.1	102.5	103.5	105.2	107.6	110.1	113.6	117.0	120.5	121.0	135.3
2.00	100.2	101.2	102.8	103.6	105.4	107.9	110.7	113.7	116.2	119.9	120.6	134.9
2.50	100.3	101.3	102.8	104.2	105.9	108.5	111.4	114.0	116.1	120.2	120.4	135.1
3.15	101.6	101.9	102.9	104.5	106.3	109.0	111.7	114.0	116.5	120.6	120.3	135.4
4.00	102.0	102.1	103.3	105.1	106.5	109.6	112.3	114.2	117.3	121.0	120.0	135.8
5.00	103.1	102.4	103.2	104.9	106.9	109.9	112.0	113.7	119.0	122.0	120.6	136.6
6.30	104.2	102.8	103.4	105.1	106.8	109.7	112.5	114.0	118.7	119.9	117.9	135.5
8.00	107.3	105.8	104.2	105.1	107.2	109.7	112.3	113.6	118.5	118.3	116.2	135.1
10.0	107.0	107.6	106.8	105.8	106.9	109.6	111.9	113.0	116.9	117.1	114.4	134.2
12.5	107.1	107.9	108.1	107.1	106.9	109.2	111.6	112.2	115.7	115.6	112.8	133.6
16.0	104.9	106.5	108.1	108.3	107.7	109.0	110.7	111.7	114.5	114.6	111.6	132.9
20.0	103.3	104.0	105.6	108.0	107.6	108.5	109.7	110.0	112.7	113.1	110.1	131.6
25.0	102.8	104.1	105.1	106.1	107.1	109.2	109.3	109.6	112.7	112.6	109.5	131.3
31.5	101.6	103.3	104.7	105.8	106.8	109.3	108.9	108.8	112.2	111.7	108.6	130.7
40.0	101.3	103.1	104.7	106.3	107.0	109.3	109.5	109.2	112.2	111.9	108.5	130.9
50.0	101.7	102.6	104.6	106.1	107.1	108.8	109.4	109.6	112.8	113.0	109.5	131.2
63.0	101.2	102.7	104.9	106.3	107.0	109.1	109.6	110.1	113.7	114.4	109.8	131.8
80.0	101.6	103.7	105.9	106.9	108.0	110.3	111.3	111.8	115.7	116.0	111.5	133.4
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPNL = 148.4

OSPL 116.7 117.3 118.2 119.2 120.1 122.4 124.3 126.2 130.5 133.2 133.0

A9

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 10

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.60	2.59		1.60	2.59	THRUST,IDL	LB	164.9	257.3	N	734	1144
REL H	39.0Z		TEMP	(R)	1459.0	1686.	(K)	810.6	936.7	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.495	0.481	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1487.4	2215.0	M/S	453.4	675.1	W (MODEL)	LB/S	3.6	3.7	KG/S	1.6	1.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	MICROPHONE ANGLES IN DEGREES					POWER 1E-12W
							120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.4	90.0	92.0	92.5	88.0	93.2	94.7	96.8	98.8	102.7	107.2	119.2
.125	88.1	90.8	91.7	92.9	92.0	94.8	94.2	97.8	101.6	104.4	107.8	120.5
.160	93.5	94.9	93.7	93.7	91.3	94.2	94.6	96.2	101.9	106.3	110.1	121.8
.200	92.0	91.0	90.9	93.1	93.9	95.7	97.5	99.8	106.0	110.6	113.1	125.0
.250	92.7	92.0	93.4	94.9	96.7	97.9	99.3	102.6	108.0	112.5	115.7	127.2
.315	93.9	93.2	95.1	96.8	98.8	101.5	101.3	105.6	110.0	114.9	119.2	129.9
.400	97.5	96.8	97.7	98.1	101.4	103.0	104.9	109.0	114.5	118.4	120.1	132.8
.500	98.3	97.8	99.0	100.1	102.4	103.0	105.5	109.8	116.6	120.3	121.2	134.4
.630	99.9	99.5	100.6	102.3	104.7	104.9	107.4	112.5	118.2	121.6	122.3	135.9
.800	100.2	100.5	101.4	102.6	106.1	105.8	108.0	112.8	118.3	122.1	121.5	136.1
1.00	100.6	101.2	102.2	103.3	107.4	107.5	109.8	113.3	118.3	121.5	121.5	136.0
1.25	100.3	102.0	103.2	103.9	107.6	107.2	110.2	113.3	117.0	120.1	120.8	135.2
1.60	100.8	101.3	102.8	103.8	107.6	107.7	110.3	113.4	115.8	118.6	119.8	134.3
2.00	100.5	101.5	103.1	104.1	108.1	108.0	110.8	113.0	114.8	117.3	118.8	133.6
2.50	100.9	101.7	103.2	104.7	108.7	108.7	111.4	113.2	114.4	117.1	118.4	133.6
3.15	101.7	102.2	103.3	104.8	109.1	109.1	111.7	113.0	114.5	117.4	118.6	133.8
4.00	102.3	102.2	103.7	105.3	109.5	109.6	112.3	113.3	115.1	118.5	118.5	134.4
5.00	102.4	101.9	103.3	105.0	109.4	109.9	112.0	112.8	115.6	118.7	117.5	134.4
6.30	102.1	102.0	103.3	105.3	109.4	110.1	112.5	113.4	116.8	118.5	116.3	134.6
8.00	101.6	102.0	103.3	105.3	110.0	110.1	112.4	113.3	117.1	116.8	114.3	134.2
10.0	102.5	102.5	103.4	105.4	109.7	110.4	112.3	113.2	116.4	115.3	112.7	133.7
12.5	104.6	104.0	103.9	104.9	109.3	110.0	111.9	112.6	115.1	113.6	111.0	132.9
16.0	103.1	104.5	105.2	105.4	109.1	109.6	111.1	112.4	113.7	112.7	109.8	132.3
20.0	100.3	101.7	104.0	105.7	108.0	108.3	110.0	110.9	111.8	111.1	107.7	130.9
25.0	99.2	100.3	102.5	104.6	107.4	107.9	109.0	110.1	111.6	110.3	106.8	130.2
31.5	98.1	99.6	101.2	102.9	106.9	107.1	107.6	108.8	110.6	108.9	105.5	129.1
40.0	96.4	98.7	100.7	102.6	106.2	106.6	107.6	108.6	110.2	108.6	104.8	128.7
50.0	95.7	96.8	99.4	101.4	105.3	105.3	106.6	107.8	110.0	108.7	105.0	128.0
63.0	93.7	95.7	98.7	100.5	104.3	104.9	106.2	107.8	110.5	109.3	104.6	127.9
80.0	93.5	95.7	98.6	99.9	104.3	105.4	107.4	109.4	111.9	110.8	106.2	129.0
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPNL = 147.4

OSPL 114.6 115.0 116.3 117.8 121.6 121.9 124.0 125.9 129.2 131.6 131.9

A10

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 11

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.10IN	1.02BAR	P.R.		1.60	2.22		1.60	2.22	THRUST,IDL	LB	163.8	202.7	N	728	901			
REL H	25.0%		TEMP	(R)	1459.0	1675.	(K)	810.6	930.6	THRUST,MEA	LB	0.0	0.0	N	0.0	0.0			
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.495	0.466	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1489.6	2039.2	M/S	454.0	621.6	W (MODEL)	LB/S	3.5	3.2	KG/S	1.6	1.5			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.7	88.4	90.7	91.3	91.1	92.0	93.9	95.8	97.8	101.7	106.0	118.2
.125	86.6	89.6	90.4	91.2	93.3	93.6	93.6	96.8	100.6	103.4	106.5	119.5
.160	91.5	93.4	92.3	92.0	91.2	92.6	93.5	95.0	100.7	105.3	108.6	120.6
.200	90.1	89.4	89.2	91.2	93.0	94.4	96.2	98.5	104.7	109.1	111.4	123.5
.250	91.3	90.8	91.8	93.2	94.6	96.2	98.2	101.2	106.5	111.1	114.1	125.7
.315	92.4	91.9	93.4	95.0	96.4	99.5	100.2	104.3	109.0	113.6	117.7	128.6
.400	95.6	95.3	96.9	97.2	98.8	101.5	103.7	108.0	113.3	117.1	118.6	131.5
.500	97.1	97.0	98.1	98.8	99.6	101.7	104.5	109.0	115.5	118.9	119.5	133.0
.630	99.4	98.4	99.1	100.8	101.5	103.6	106.4	111.5	117.1	120.2	120.4	134.5
.800	98.8	99.4	100.2	101.3	102.6	104.3	106.8	111.9	117.3	120.8	119.9	134.8
1.00	99.4	100.0	100.9	102.0	104.0	106.2	108.8	112.4	117.4	120.4	119.8	134.9
1.25	99.0	101.0	101.8	102.7	104.0	106.0	109.1	112.1	116.3	119.1	119.3	134.1
1.60	99.3	99.8	101.2	102.3	104.1	106.4	109.0	111.9	114.9	117.9	118.3	133.2
2.00	98.4	99.6	101.3	102.3	104.1	106.5	109.4	111.7	113.4	116.3	117.2	132.1
2.50	98.9	99.7	101.3	102.9	104.8	107.2	110.0	111.7	113.1	116.3	116.9	132.2
3.15	99.7	100.2	101.4	103.0	105.0	107.6	110.3	111.7	113.1	116.4	116.6	132.3
4.00	100.1	100.2	101.8	103.5	105.5	108.2	110.9	111.8	113.4	117.1	116.6	132.8
5.00	100.4	100.0	101.5	103.3	105.4	108.3	110.5	111.3	113.8	117.0	115.6	132.6
6.30	100.1	100.2	101.6	103.5	105.7	108.6	111.0	111.8	115.1	116.6	114.3	132.8
8.00	98.8	99.8	101.4	103.5	106.1	108.7	110.9	111.5	115.2	115.2	112.5	132.4
10.0	97.6	99.5	101.3	103.4	105.7	108.7	110.5	111.1	114.6	113.7	110.9	131.7
12.5	97.6	98.6	100.8	102.7	105.1	108.2	110.2	110.4	113.0	111.7	109.0	130.6
16.0	97.0	98.2	100.0	102.2	104.9	107.6	109.2	109.9	111.6	110.7	107.8	129.7
20.0	95.7	96.8	99.0	101.6	103.4	106.2	108.0	108.2	109.6	109.1	105.9	128.2
25.0	94.3	96.2	98.5	100.5	102.4	105.5	106.8	107.4	109.5	108.3	105.2	127.5
31.5	93.2	95.3	97.6	99.8	102.0	104.7	105.7	106.4	108.7	107.3	104.1	126.6
40.0	92.8	95.0	97.5	99.9	102.0	104.7	105.9	106.5	108.4	107.1	103.8	126.5
50.0	93.2	94.4	97.2	99.5	101.9	104.3	105.6	106.6	108.8	107.9	104.4	126.7
63.0	93.1	94.7	97.8	99.8	101.7	104.7	105.9	107.0	109.9	109.0	104.8	127.3
80.0	94.0	96.1	98.5	100.0	102.5	105.5	107.3	108.7	111.4	110.5	106.3	128.6
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 145.8

OSPL 111.9 112.6 114.1 115.8 117.7 120.4 122.6 124.4 127.9 130.3 130.2

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 12

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.60	2.01		1.60	2.01	THRUST, IOL	LB	165.3	172.7	N	735	768
REL H	38.0%		TEMP	(R)	1468.0	1988.	(K)	815.6	1104.4	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.024	KG/M3	0.492	0.381	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1491.1	2091.0	M/S	454.5	637.3	W (MODEL)	LB/S	3.6	2.7	KG/S	1.6	1.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES												POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160		
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.6	88.3	90.7	91.2	86.7	91.5	93.2	95.9	97.8	101.5	105.9		117.9
.125	86.5	89.2	91.2	93.2	92.0	94.2	96.2	100.7	102.7	104.7	106.9		121.0
.160	91.9	93.4	92.3	92.0	89.5	92.7	93.2	95.0	100.6	105.0	108.4		120.3
.200	90.3	89.2	89.1	90.8	91.9	94.0	95.9	98.3	104.3	108.8	111.4		123.3
.250	91.2	90.3	91.5	93.2	95.0	96.0	98.1	101.5	106.4	111.1	114.1		125.7
.315	92.8	91.8	93.5	95.0	97.3	99.3	100.0	104.4	108.8	113.5	117.6		128.5
.400	95.8	95.2	96.3	96.5	99.7	101.0	103.1	107.7	112.8	116.5	118.2		131.0
.500	96.8	96.2	97.6	98.6	101.0	101.5	104.1	108.5	114.8	118.4	119.4		132.6
.630	98.5	97.8	99.3	100.5	102.9	103.3	105.9	110.9	116.4	119.6	120.2		134.0
.800	98.5	99.0	100.1	100.9	104.3	104.1	106.5	111.2	116.7	120.1	119.3		134.2
1.00	98.9	99.7	100.9	101.6	105.7	105.8	108.4	111.7	116.7	119.7	119.4		134.3
1.25	98.8	100.6	101.8	102.4	106.0	105.7	108.7	111.5	115.1	118.3	118.7		133.4
1.60	99.2	99.7	101.3	102.2	106.0	106.1	108.6	111.4	113.9	116.5	117.3		132.3
2.00	98.1	99.5	101.5	102.3	106.2	106.2	109.0	111.0	112.4	114.3	115.4		131.2
2.50	98.7	99.7	101.6	102.8	107.0	106.9	109.6	110.9	111.8	113.4	114.2		130.9
3.15	99.4	100.1	101.7	103.0	107.4	107.3	109.7	110.8	111.4	113.0	113.6		130.9
4.00	100.0	100.4	102.3	103.6	107.8	108.1	110.3	110.9	111.4	113.6	113.7		131.3
5.00	100.8	100.2	101.9	103.4	108.0	108.4	110.1	110.5	111.4	113.8	113.1		131.2
6.30	100.9	100.6	102.2	103.8	108.2	108.6	110.5	111.0	112.6	114.4	113.2		131.7
8.00	99.4	100.6	102.2	103.9	108.8	108.9	110.5	111.0	113.3	114.8	112.7		132.0
10.0	98.3	100.5	102.2	103.9	108.6	109.2	110.3	110.6	113.5	114.0	111.6		131.8
12.5	98.5	99.7	101.8	103.4	108.1	108.7	109.9	109.7	112.2	111.4	109.2		130.7
16.0	97.6	99.2	101.2	103.0	107.7	108.2	109.1	109.3	110.7	110.1	107.8		129.8
20.0	95.9	97.8	99.9	102.4	106.1	106.7	107.9	107.7	108.7	108.6	106.0		128.3
25.0	95.0	96.9	99.3	101.5	105.3	106.1	106.9	107.0	108.4	107.7	105.1		127.6
31.5	93.3	95.5	98.1	100.0	104.5	105.1	105.3	105.6	107.1	106.3	103.6		126.3
40.0	92.2	94.7	97.3	99.5	103.7	104.3	105.0	105.0	106.4	105.7	102.7		125.6
50.0	91.6	93.1	96.1	98.3	102.5	102.9	103.8	104.2	105.9	105.5	102.3		124.8
63.0	90.1	91.9	95.4	97.1	101.6	102.3	103.1	103.7	105.9	105.7	101.7		124.3
80.0	90.0	92.5	95.8	96.8	101.5	102.9	104.2	105.0	107.3	106.9	103.1		125.3
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9		36.5

OAPHL 145.1

OSPL 111.8 112.6 114.4 115.8 119.9 120.3 122.1 123.6 126.7 129.1 129.5

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 13

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.61	2.01		1.61	2.01	THRUST, IOL	LB	166.6	170.3	H	741	758
REL H	26.0%		TEMP	(R)	1476.0	1291.	(K)	820.0	717.2	THRUST, HEA	LB		0.0	H		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.037	KG/M3	0.490	0.595	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1507.3	1682.3	M/S	459.4	512.8	W (MODEL)	LB/S	3.6	3.3	KG/S	1.6	1.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	84.3	87.0	89.2	89.9	89.5	90.5	92.7	94.7	96.7	100.5	104.6	116.9
.125	85.4	88.4	88.9	89.5	91.7	92.3	91.6	94.8	99.0	101.8	104.9	117.8
.160	89.8	91.8	90.6	90.7	89.5	91.3	91.9	93.6	99.4	103.8	107.0	119.1
.200	88.4	87.8	88.2	90.5	91.9	93.3	94.8	97.2	103.2	107.6	109.9	122.1
.250	89.6	89.5	90.7	92.2	93.5	95.0	96.6	100.0	105.2	109.6	112.6	124.3
.315	90.9	90.8	92.4	93.9	95.3	98.3	98.9	103.2	107.7	112.3	116.4	127.3
.400	94.2	94.2	95.6	96.3	97.8	100.4	102.6	106.7	112.0	115.7	117.0	130.1
.500	96.1	95.9	96.9	97.8	98.5	100.6	103.2	107.5	114.2	117.6	118.2	131.7
.630	98.3	97.3	98.0	99.9	100.5	102.6	105.0	110.5	116.2	119.4	119.3	133.6
.800	97.8	98.4	98.9	100.3	101.9	103.3	105.5	111.2	117.0	120.0	118.6	134.1
1.00	98.6	99.1	99.6	101.0	102.9	105.3	107.6	111.5	117.4	119.7	118.8	134.3
1.25	98.1	99.7	100.9	101.6	103.0	104.8	107.6	111.2	116.1	118.3	118.2	133.3
1.60	98.1	98.5	99.6	100.9	102.6	105.0	107.4	110.6	114.4	116.6	116.4	131.9
2.00	96.7	97.9	99.5	100.6	102.4	104.8	107.3	110.2	112.4	113.6	113.9	130.1
2.50	96.3	97.5	99.1	100.8	102.4	104.9	107.4	109.9	111.2	111.8	111.8	129.2
3.15	96.5	97.5	98.9	100.5	102.5	104.9	107.3	109.3	109.8	110.1	110.1	128.4
4.00	97.0	97.5	99.1	100.7	102.6	105.2	107.5	108.8	108.7	109.0	109.1	128.0
5.00	97.5	97.0	98.5	100.3	102.1	104.9	106.7	107.7	107.5	108.1	108.0	127.2
6.30	97.2	97.2	98.8	100.6	102.2	104.8	106.8	107.5	107.0	107.8	107.6	127.0
8.00	96.1	97.0	98.5	100.3	102.6	104.5	106.5	106.7	106.3	107.6	106.9	126.6
10.0	95.6	97.2	98.4	100.4	102.4	104.8	106.1	106.1	105.9	107.1	106.5	126.3
12.5	97.0	97.5	98.7	100.1	102.3	104.8	106.0	105.3	105.3	106.3	106.1	126.0
16.0	95.7	96.7	97.8	99.8	101.6	104.0	105.2	104.7	104.2	104.6	104.0	125.1
20.0	93.9	95.0	96.7	99.1	100.2	102.4	104.1	103.2	102.4	102.7	101.8	123.6
25.0	93.0	94.5	96.2	98.2	99.4	102.0	103.0	102.9	102.4	101.8	100.9	123.0
31.5	92.2	93.7	95.4	97.3	99.2	101.3	101.9	101.7	101.3	100.8	99.6	122.1
40.0	91.8	93.8	95.7	97.8	99.1	101.5	102.2	101.9	100.9	100.4	99.0	122.1
50.0	92.4	93.3	95.7	97.6	99.0	100.9	101.9	101.6	100.8	101.1	99.6	122.0
63.0	93.1	94.1	96.8	98.3	99.3	101.4	102.1	102.1	101.8	102.9	100.2	122.7
80.0	95.1	96.6	98.7	99.7	101.0	102.7	103.6	103.5	103.4	105.2	101.9	124.3
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 143.4

OSPL 110.2 110.9 112.2 113.7 115.4 117.6 119.6 121.9 125.5 128.0 128.1

20186F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20186 CONDITION 14

TEST DAY CONDITIONS		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN						
TEMP	92.0(F) 33.3(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.08IN 1.02BAR	P.R.		1.60	2.39		1.60	2.39	THRUST,IDL	LB	165.4	226.1	N	736 1006
REL H	29.0Z	TEMP	(R)	2006.0	2005.	(K)	1114.4	1113.9	THRUST,MEA	LB		0.0	N	0.0
SDSPD	1151FPS 350M/S	RHO	LB/FT3	0.022	0.025	KG/M3	0.357	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008 0.005
		VEL	FPS	1746.3	2326.3	M/S	532.3	709.0	W (MODEL)	LB/S	3.1	3.1	KG/S	1.4 1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES										POWER 1E-12W	
	60	70	80	90	100	110	120	130	140	150		160
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.0	90.5	92.6	93.6	88.8	93.1	95.6	98.0	99.8	103.7	108.1	120.1
.125	88.5	91.3	92.4	94.8	93.6	95.6	97.5	101.6	104.1	106.3	109.4	122.6
.160	94.3	95.8	93.8	94.1	92.0	94.9	95.4	97.2	103.0	107.8	111.0	122.9
.200	92.6	91.7	90.2	93.0	93.8	95.9	97.6	100.6	106.9	111.4	113.8	125.8
.250	94.0	93.5	93.2	95.5	96.9	99.9	100.0	103.9	109.3	114.0	116.7	128.5
.315	95.2	94.7	95.2	97.4	99.4	113.6	102.5	106.9	111.2	116.4	120.0	132.4
.400	98.2	97.6	97.9	98.9	101.8	107.7	106.1	110.7	115.9	119.7	120.8	134.1
.500	99.5	99.1	99.0	101.0	103.3	104.9	106.8	112.1	118.7	122.1	122.1	136.1
.630	100.8	100.4	100.9	102.8	105.5	105.2	108.7	114.9	120.7	123.2	122.4	137.5
.800	101.3	101.9	102.2	104.1	107.2	106.6	110.0	115.9	121.7	124.0	122.2	138.3
1.00	102.0	102.9	103.0	104.9	109.0	108.8	111.8	116.9	122.7	124.2	123.0	139.0
1.25	102.5	104.6	104.5	105.8	109.7	108.9	112.2	116.3	122.1	124.3	123.2	138.9
1.60	103.0	103.6	103.9	105.6	109.4	109.1	112.5	115.8	120.8	123.7	122.7	138.2
2.00	102.2	103.4	104.0	105.7	109.6	109.0	112.4	115.3	119.2	122.4	121.7	137.1
2.50	102.4	103.3	103.9	105.9	110.1	109.6	113.0	115.0	118.4	121.7	120.9	136.6
3.15	102.9	103.5	103.8	106.1	110.2	110.0	113.1	114.8	117.8	121.0	120.2	136.2
4.00	103.0	103.1	104.0	106.0	110.5	110.3	113.1	114.5	117.9	120.9	119.1	136.1
5.00	103.1	102.8	103.7	106.3	110.4	110.4	113.0	113.8	118.0	120.2	117.5	135.7
6.30	102.5	102.8	103.5	106.2	110.6	110.6	113.1	114.2	118.5	119.1	116.2	135.5
8.00	101.5	102.5	103.5	106.2	111.0	110.9	113.0	114.4	113.4	117.6	114.3	135.2
10.0	100.5	102.5	103.3	106.0	110.7	110.8	112.8	114.5	117.5	116.5	112.8	134.6
12.5	101.6	101.8	102.8	105.5	110.4	110.4	112.5	113.8	116.0	114.7	111.4	133.6
16.0	101.8	102.6	102.6	105.4	109.9	109.9	112.0	113.6	114.8	113.8	111.1	133.0
20.0	99.6	101.1	102.2	104.9	108.3	108.5	110.4	111.8	113.1	112.4	108.4	131.5
25.0	97.4	99.5	101.2	104.1	107.6	107.6	109.5	111.1	112.7	111.7	107.5	130.8
31.5	96.2	98.2	99.6	102.9	106.6	106.9	108.4	110.1	112.1	110.5	106.2	129.8
40.0	95.2	97.5	98.8	102.6	106.6	106.9	108.5	110.1	112.0	111.3	105.9	129.7
50.0	95.0	96.3	98.1	101.9	105.9	106.0	108.1	110.1	112.1	111.0	106.1	129.6
63.0	93.8	95.7	97.8	101.0	105.4	106.0	108.1	110.3	113.1	111.9	106.6	130.0
80.0	94.5	96.7	98.0	101.2	106.1	107.4	109.8	112.8	115.6	114.2	108.7	132.1
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 149.5

OSPL 114.8 115.6 116.2 118.6 122.6 123.2 125.2 127.8 132.1 134.2 133.2

A14

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 15

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	92.0(F)	33.3(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.08IN	1.02BAR	P.R.		1.60	2.40		1.60	2.40	THRUST,IDL	LB	166.6	229.3	N	741	1020
REL H	28.0%		TEMP	(R)	1691.0	2003.	(K)	939.4	1112.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.027	0.025	KG/M3	0.426	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1606.0	2328.9	M/S	489.5	709.9	W (MODEL)	LB/S	3.3	3.2	KG/S	1.5	1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.0	90.0	91.7	92.6	87.9	92.4	94.6	96.7	98.9	102.9	107.4	119.2
.125	88.1	90.8	92.1	94.3	93.2	95.1	96.9	101.2	103.6	105.8	108.6	122.0
.160	93.9	95.6	93.5	94.0	91.7	94.1	95.1	96.8	102.4	107.1	110.4	122.3
.200	92.0	91.0	89.7	92.6	93.6	95.4	97.3	99.6	106.3	110.8	113.2	125.2
.250	93.2	92.8	92.6	94.8	96.3	99.5	99.6	102.9	108.2	113.0	115.9	127.6
.315	94.2	93.7	94.4	96.8	98.7	113.1	101.7	105.7	110.3	115.5	119.2	131.6
.400	97.5	97.0	97.2	98.4	101.3	107.2	105.1	109.5	114.7	118.7	120.2	133.2
.500	98.8	98.5	98.5	100.4	102.6	104.1	105.8	110.6	117.3	120.9	121.6	135.0
.630	100.2	99.7	100.2	102.1	104.7	104.4	107.8	113.2	118.9	122.1	122.0	136.3
.800	100.7	101.3	101.3	103.0	106.4	105.5	108.9	113.8	119.5	122.9	121.9	136.9
1.00	101.5	102.1	102.3	103.9	107.9	107.8	110.7	114.4	120.0	123.0	122.2	137.3
1.25	101.4	103.4	103.4	104.8	108.5	107.7	111.0	114.1	118.7	122.2	122.1	136.7
1.60	101.8	102.5	102.9	104.7	108.3	107.8	111.1	113.9	117.5	121.2	121.2	135.9
2.00	101.3	102.3	103.1	104.8	108.7	108.0	111.5	113.5	116.2	119.7	120.2	134.9
2.50	101.6	102.5	103.2	105.3	109.1	108.7	112.0	113.4	115.6	119.2	119.7	134.7
3.15	102.3	102.7	103.1	105.4	109.4	109.1	112.3	113.4	115.5	119.0	119.3	134.7
4.00	102.5	102.7	103.4	105.6	109.8	109.6	112.4	113.3	116.0	119.4	118.7	134.9
5.00	102.7	102.5	103.2	105.7	110.1	109.8	112.6	112.9	116.6	119.5	117.5	135.0
6.30	102.3	102.5	103.1	105.7	110.1	110.2	112.9	113.3	117.7	118.6	115.8	134.9
8.00	101.3	102.4	103.2	105.8	110.7	110.4	112.8	113.9	118.0	117.0	114.1	134.8
10.0	100.3	102.3	103.0	105.9	110.4	110.5	112.7	114.0	117.2	115.9	112.6	134.3
12.5	101.4	101.7	102.8	105.2	110.2	110.1	112.3	113.7	115.4	114.1	110.9	133.3
16.0	101.7	102.5	102.6	105.1	109.7	109.7	111.8	113.3	114.4	113.0	109.6	132.7
20.0	99.4	101.0	102.2	104.8	108.2	108.4	110.5	111.6	112.6	111.6	107.9	131.2
25.0	97.2	99.5	101.3	104.0	107.6	107.6	109.5	111.0	112.3	110.6	106.9	130.5
31.5	96.1	98.0	99.8	102.9	107.0	106.8	108.5	109.9	111.7	109.6	105.5	129.6
40.0	95.2	97.6	99.0	102.5	106.8	106.8	108.4	109.9	111.4	109.4	105.2	129.4
50.0	94.8	96.4	98.3	101.8	106.1	106.0	108.1	109.7	111.4	109.9	105.4	129.2
63.0	93.6	95.7	98.0	101.0	105.4	106.1	108.0	109.9	112.2	110.6	105.5	129.4
80.0	94.1	96.5	98.2	101.1	106.0	107.5	109.8	112.2	114.6	112.7	107.3	131.3
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 148.2

OSPL 114.3 115.1 115.8 118.1 122.1 122.6 124.6 126.6 130.3 132.7 132.4

A15

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 16

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.08IN	1.02BAR	P.R.		1.59	2.40		1.59	2.40	THRUST, IDL	LB	162.1	234.4	N	721	1043
REL H	32.0%		TEMP	(R)	1066.0	2003.	(K)	592.2	1112.8	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.042	0.025	KG/M3	0.681	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1263.6	2329.9	M/S	385.2	710.2	W (MODEL)	LB/S	4.1	3.2	KG/S	1.9	1.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.7	88.3	0.0	90.9	86.6	91.1	93.0	95.0	96.9	101.1	105.9	117.4
.125	86.9	89.6	0.0	93.7	92.5	94.3	96.8	100.8	102.5	104.2	107.0	120.8
.160	92.1	93.7	0.0	92.0	89.8	92.2	93.3	94.9	99.9	104.7	108.2	119.9
.200	90.4	89.9	0.0	91.4	92.0	93.9	95.7	97.3	103.3	108.3	111.1	122.8
.250	90.9	90.7	0.0	93.1	94.4	97.7	97.5	100.7	105.2	110.4	113.4	125.0
.315	91.8	91.9	0.0	94.8	96.6	111.7	99.4	103.0	107.2	112.5	116.8	129.3
.400	95.2	94.9	0.0	96.5	99.4	106.0	102.7	105.9	110.8	115.6	117.6	130.1
.500	96.3	96.0	0.0	98.0	100.1	101.0	103.1	106.5	112.5	116.7	118.6	131.0
.630	97.7	97.5	0.0	99.5	102.2	101.7	104.6	108.6	113.2	116.8	118.7	131.5
.800	97.5	97.9	0.0	100.1	103.4	102.6	105.3	109.4	112.9	116.4	117.1	131.2
1.00	97.2	98.3	0.0	100.6	104.3	103.9	107.0	110.3	112.8	114.2	115.4	130.6
1.25	97.1	99.0	0.0	101.0	104.8	104.2	107.7	110.5	112.0	112.4	113.2	129.9
1.60	97.5	99.0	0.0	101.4	105.4	104.8	108.5	110.9	111.7	111.6	112.1	129.9
2.00	97.8	99.5	0.1	102.0	106.2	105.5	109.2	111.1	111.0	111.0	111.9	129.9
2.50	99.0	100.4	0.1	103.2	107.1	106.6	110.7	111.5	111.4	111.9	113.1	130.7
3.15	100.2	101.1	0.1	103.9	107.7	107.5	111.7	111.7	111.8	113.5	114.7	131.6
4.00	101.4	101.7	0.1	104.3	108.5	108.4	112.3	112.4	113.1	115.8	116.2	132.8
5.00	102.0	101.7	0.1	104.7	109.1	108.9	112.6	112.7	114.3	117.4	116.4	133.6
6.30	101.9	101.9	0.2	105.0	109.2	109.5	113.0	113.3	116.2	118.0	115.8	134.2
8.00	100.4	101.7	0.2	105.0	110.0	109.9	112.9	113.9	117.2	117.1	113.7	134.4
10.0	99.8	101.8	0.3	105.1	110.0	110.2	112.6	113.7	117.2	115.3	111.9	133.9
12.5	101.3	101.4	0.4	104.7	109.7	109.8	112.1	113.0	115.4	113.4	110.2	132.8
16.0	101.8	102.4	0.6	104.8	109.2	109.5	111.5	112.7	114.1	112.5	109.0	132.2
20.0	99.0	101.0	0.9	104.5	107.9	108.1	110.1	111.3	112.5	110.8	107.2	130.7
25.0	97.0	99.4	1.2	103.7	107.2	107.5	109.4	110.7	112.0	110.0	106.2	130.1
31.5	95.7	97.7	1.9	102.7	106.8	106.7	108.3	109.6	111.2	108.9	105.0	129.1
40.0	94.5	97.3	2.9	102.1	106.4	106.6	108.3	109.3	111.0	108.5	104.4	128.9
50.0	94.1	95.7	4.2	101.2	105.4	105.5	107.7	109.1	110.7	108.8	104.2	128.5
63.0	92.8	94.9	6.1	100.4	104.7	105.6	107.5	109.2	111.5	109.3	104.0	128.6
80.0	93.2	95.7	9.2	100.4	105.3	106.8	109.2	111.3	113.5	111.1	105.4	130.3
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 145.5

OSPL 112.7 113.6 18.6 116.8 120.9 121.5 123.8 125.1 127.3 128.3 128.4

15.2049

[illegible]

TEST DAY CONDITIONS				PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN						
TEMP	92.0(F)	33.3(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.08IN	1.02BAR	P.R.		2.00	2.40		2.00	2.40	THRUST,IDL	LB	268.9	224.4	N	1196	998
REL H	29.0%		TEMP	(R)	1110.0	2005.	(K)	616.7	1113.9	THRUST,HEA	LB		0.0	N		0.0
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.043	0.025	KG/M3	0.694	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1550.5	2331.3	M/S	472.6	710.6	W (MODEL)	LB/S	5.6	3.1	KG/S	2.5	1.4

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.3	91.1	92.5	93.0	88.7	93.8	95.4	97.1	99.2	103.8	108.6	120.1
.125	89.8	92.4	93.0	95.2	94.1	96.2	97.6	101.2	103.3	106.0	109.6	122.4
.160	95.3	96.9	94.5	95.2	92.8	94.9	95.6	96.7	102.1	107.1	111.2	122.7
.200	93.3	92.3	91.3	93.8	94.3	96.2	97.9	99.8	105.7	110.8	113.9	125.4
.250	93.9	93.2	93.4	95.3	96.9	99.7	99.8	102.3	107.3	112.9	116.6	127.6
.315	93.9	93.7	94.8	97.1	99.1	112.9	101.5	104.7	109.3	115.3	120.1	131.6
.400	97.9	97.9	97.9	98.8	101.8	107.2	104.9	108.3	113.8	118.8	121.3	133.2
.500	99.4	99.1	99.3	100.6	102.5	103.8	105.4	109.1	115.8	121.0	123.0	134.9
.630	100.8	100.9	100.7	102.6	104.9	104.3	107.2	111.4	117.4	122.1	123.7	136.1
.800	101.3	101.2	101.7	103.0	106.3	105.1	107.7	111.9	117.5	123.1	123.5	136.7
1.00	101.4	102.1	102.4	103.8	107.7	107.3	109.7	112.9	117.9	122.8	123.2	136.8
1.25	101.4	103.1	103.2	104.6	108.1	107.2	110.2	113.0	116.9	122.0	122.7	136.2
1.60	101.6	102.8	102.9	104.6	108.2	107.5	110.6	113.3	116.3	121.1	122.1	135.7
2.00	101.5	102.6	103.3	104.7	108.5	107.7	110.9	113.1	115.5	119.3	121.0	134.7
2.50	101.9	102.8	103.3	105.2	109.0	108.5	111.8	113.2	115.4	119.1	120.4	134.7
3.15	102.6	103.2	103.3	105.5	109.4	109.0	112.5	113.3	115.3	119.1	119.8	134.8
4.00	103.0	103.0	103.6	105.7	109.8	109.6	112.7	113.3	115.9	119.6	119.2	135.1
5.00	103.4	102.9	103.3	105.8	110.1	109.9	112.9	113.1	116.6	119.7	117.5	135.1
6.30	103.1	103.2	103.5	106.1	110.1	110.3	113.3	113.6	117.7	118.9	116.1	135.1
8.00	101.9	102.8	103.7	106.2	110.9	110.7	113.2	114.0	118.2	117.3	114.4	135.0
10.0	100.6	102.6	103.3	106.0	110.7	110.9	112.9	113.9	117.4	116.0	112.6	134.4
12.5	100.8	102.1	103.0	105.4	110.2	110.4	112.7	113.7	115.6	114.4	111.2	133.5
16.0	100.2	101.6	102.6	105.4	109.8	110.1	112.1	113.4	114.5	113.2	109.9	132.8
20.0	98.4	100.1	101.4	104.8	108.4	108.6	110.7	111.7	112.8	111.7	107.9	131.3
25.0	97.2	99.2	100.8	103.8	107.8	108.0	109.9	111.1	112.4	110.9	107.0	130.7
31.5	95.9	98.0	99.5	102.7	107.0	107.2	108.7	110.0	111.6	110.0	105.7	129.7
40.0	95.0	97.5	98.8	102.5	106.6	106.9	108.7	110.0	111.5	109.6	105.3	129.5
50.0	94.8	96.2	98.1									

OAPWL = 148.2

OSPL 114.5 115.3 115.9 118.2 122.1 122.7 124.7 126.2 129.6 132.7 133.4

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 18

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	91.0(F)	32.8(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.08IN	1.02BAR	P.R.		1.40	2.40		1.40	2.40	THRUST,IDL	LB	124.7	224.3	N	555	998			
REL H	30.0%		TEMP	(R)	1099.0	2007.	(K)	610.6	1115.0	THRUST,MEA	LB	0.0		N		0.0			
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.040	0.025	KG/M3	0.638	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1102.5	2332.6	M/S	336.0	711.0	M (MODEL)	LB/S	3.6	3.1	KG/S	1.7	1.4			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	84.4	87.1	89.0	90.0	85.3	89.8	92.0	94.2	96.0	100.1	104.4	116.4
.125	85.6	88.3	90.1	93.3	92.0	93.8	96.3	100.4	102.1	103.7	105.9	120.4
.160	90.7	92.4	90.8	91.0	88.5	91.0	92.2	93.8	99.1	103.7	106.9	119.0
.200	88.7	88.1	87.4	90.1	90.8	92.8	94.6	96.7	102.5	106.9	109.4	121.5
.250	89.9	89.5	89.8	92.1	93.6	96.3	96.6	99.6	104.2	108.9	111.9	123.7
.315	90.8	90.7	91.5	93.8	95.6	110.7	98.3	102.2	105.9	111.2	115.0	128.0
.400	93.9	93.4	94.1	95.4	98.1	104.9	101.5	104.9	109.6	113.8	115.5	128.6
.500	94.9	94.8	95.2	96.8	99.1	99.9	101.9	105.5	111.0	114.7	116.1	129.2
.630	96.0	95.9	96.4	97.7	100.8	100.3	103.4	107.3	111.7	114.3	115.8	129.5
.800	95.7	96.4	96.7	98.8	101.9	101.3	104.1	108.1	111.5	113.3	113.1	128.9
1.00	95.5	96.9	97.7	99.5	103.1	102.7	105.9	109.5	111.5	111.2	110.6	128.7
1.25	95.8	97.5	98.2	99.8	103.6	103.0	106.7	109.9	110.7	109.8	108.4	128.4
1.60	96.4	97.9	98.6	100.5	104.3	103.9	107.8	110.4	110.5	109.3	103.0	128.8
2.00	96.6	98.6	99.8	101.2	105.3	104.8	108.9	110.8	110.3	108.9	108.3	129.1
2.50	98.1	99.5	100.3	102.3	106.4	106.0	110.5	111.3	110.8	110.2	110.3	130.1
3.15	99.4	100.4	100.7	103.0	107.2	107.1	111.6	111.8	111.7	111.9	112.5	131.1
4.00	100.6	101.0	101.8	103.7	108.1	108.1	112.3	112.6	113.1	114.6	114.7	132.4
5.00	101.7	101.4	101.9	104.2	108.6	108.8	112.7	113.0	114.4	116.7	115.7	133.4
6.30	101.7	101.6	102.2	104.6	109.1	109.3	113.1	113.9	116.0	117.9	116.0	134.3
8.00	100.7	101.5	102.4	104.8	109.9	109.8	113.0	114.4	117.1	117.6	114.2	134.6
10.0	100.0	101.6	102.3	104.8	109.7	110.0	112.8	114.2	117.0	116.0	112.3	134.1
12.5	101.0	101.1	102.0	104.4	109.4	109.6	112.2	113.0	115.0	113.6	110.6	132.8
16.0	102.3	102.5	102.2	104.6	109.1	109.4	111.6	112.8	114.1	112.9	109.2	132.3
20.0	99.7	101.7	102.5	104.2	107.8	108.1	110.2	111.6	112.3	111.1	107.4	130.9
25.0	97.3	99.7	101.6	103.8	107.1	107.4	109.4	110.9	111.9	110.4	106.5	130.3
31.5	96.2	97.9	99.8	102.9	106.8	106.7	108.6	109.8	111.1	109.2	105.3	129.4
40.0	95.0	97.5	98.8	102.3	106.3	106.6	108.5	109.8	110.9	108.9	104.7	129.1
50.0	94.5	96.1	97.9	101.3	105.6	105.7	108.0	109.6	110.7	109.3	104.6	128.8
63.0	93.4	95.4	97.6	100.7	105.1	105.8	108.0	109.8	111.6	109.9	104.3	129.1
80.0	93.8	96.0	97.7	100.8	105.5	107.1	109.6	112.1	113.6	111.7	105.9	130.8
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 145.1

OSPL 112.3 113.2 114.1 116.3 120.6 121.2 123.8 125.2 126.9 127.4 126.6

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 19

TEST DAY CONDITIONS		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN	
TEMP	90.0(F) 32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW
PRES	30.07IN 1.02BAR	P.R.	2.08	2.10	2.08	2.10	THRUST,IDL	LB	281.3
REL H	29.0%	TEMP	(R) 1586.0	1646.	(K)	881.1	914.6	THRUST,NEA	LB
SOSPD	1149FPS 350M/S	RHO	LB/FT3	0.030	0.029	KG/M3	0.485	0.468	AREA (MOD)
		VEL	FPS	1907.1	1956.3	M/S	581.3	596.3	W (MODEL)
									LB/S
									4.8
									3.0
									KG/S
									2.2
									1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.5	91.0	92.8	93.0	88.6	93.7	97.8	97.0	99.2	103.5	108.3	120.1
.125	89.5	92.0	92.5	93.8	93.1	95.5	96.4	98.1	102.1	105.2	109.1	121.4
.160	95.4	96.8	94.8	94.8	92.6	95.3	96.6	96.7	103.1	107.6	111.6	123.2
.200	93.4	92.0	91.3	93.6	94.4	96.5	98.5	99.9	106.7	111.6	114.3	126.0
.250	93.7	92.8	93.4	95.0	97.1	100.1	99.9	103.2	108.8	113.6	117.3	128.4
.315	94.7	93.4	95.4	97.0	99.3	113.6	102.1	106.1	111.0	116.1	120.9	132.5
.400	98.6	98.1	98.3	98.6	101.7	108.0	105.7	109.7	115.5	119.7	121.8	134.2
.500	99.4	99.1	99.3	100.9	103.0	105.0	106.4	111.1	118.5	122.5	123.4	136.4
.630	100.7	100.4	100.9	102.8	105.4	105.2	108.4	114.1	120.6	123.7	123.9	137.8
.800	101.3	101.6	102.2	103.5	107.1	106.2	109.4	115.7	122.4	124.9	123.3	139.0
1.00	101.5	102.3	102.8	104.4	108.7	109.2	111.8	117.2	124.2	125.3	123.7	140.1
1.25	102.1	103.7	104.2	105.3	109.2	109.0	112.3	117.4	124.4	125.4	123.5	140.2
1.60	102.7	102.9	103.8	105.0	109.1	109.4	112.5	117.2	124.5	125.7	123.2	140.3
2.00	101.7	102.7	103.8	105.1	109.1	109.2	112.8	116.9	123.6	124.6	122.0	139.4
2.50	101.8	102.3	103.5	105.5	109.4	109.7	113.3	116.5	122.9	123.4	120.4	138.6
3.15	102.2	102.3	103.3	105.0	109.5	109.9	113.5	116.2	121.6	121.4	118.6	137.4
4.00	102.6	102.4	103.5	105.4	109.7	110.1	113.2	115.6	120.3	119.7	117.0	136.4
5.00	102.6	102.3	103.2	105.0	109.4	110.0	112.8	114.6	118.6	118.1	115.3	135.2
6.30	101.8	101.9	103.0	105.1	109.3	109.8	112.7	114.0	117.5	117.1	114.1	134.4
8.00	100.2	101.3	102.7	104.9	109.7	109.7	112.3	113.0	116.0	115.7	112.6	133.5
10.0	99.2	100.9	102.3	104.3	109.1	109.3	111.3	111.8	114.7	114.5	111.4	132.5
12.5	99.2	100.1	101.5	103.8	108.4	108.5	110.8	110.7	113.5	113.0	109.6	131.5
16.0	98.0	99.4	100.9	103.2	107.6	107.9	110.0	109.7	112.2	111.8	108.3	130.5
20.0	96.4	97.8	99.5	102.4	105.9	106.4	108.3	107.8	110.0	110.1	106.2	128.7
25.0	95.1	96.7	98.7	101.1	104.8	105.1	106.8	107.1	109.5	109.1	105.5	127.8
31.5	94.0	95.5	97.5	99.8	104.1	104.2	105.7	105.7	108.6	108.1	104.1	126.7
40.0	92.9	94.9	96.8	99.4	103.6	103.7	105.3	105.2	108.1	107.8	103.5	126.2
50.0	92.3	93.6	96.0	98.4	102.7	102.5	104.1	104.4	107.8	108.1	103.9	125.7
63.0	91.3	93.0	95.6	97.6	101.9	102.2	104.1	104.3	109.0	109.5	104.5	126.2
80.0	92.0	94.0	95.9	97.7	102.7	103.4	105.5	106.3	111.7	112.1	107.1	128.2
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 149.9

OSFL 114.0 114.6 115.6 117.3 121.4 122.4 124.5 127.5 133.5 134.8 133.5

A19

20188F Q1258 VCE PRI/FAH NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 20

TEST DAY CONDITIONS		PRIMARY FAH		PRIMARY FAH		PRIMARY FAH		PRIMARY FAH						
TEMP	90.0(F) 32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.07IN 1.02BAR	P.R.		1.93	1.93		1.93	1.93	THRUST,IDL LB	246.5	158.4	H	1097	704
REL H	30.0%	TEMP	(R)	1723.0	1716.	(K)	957.2	953.3	THRUST,MEA LB		0.0	H		0.0
SDSPD	1149FPS 350M/S	RHO	LB/FT3	0.027	0.027	KG/M3	0.437	0.439	AREA (MOD) SQFT	0.08	0.05	SQM	0.008	0.005
		VEL	FPS	1894.7	1888.7	M/S	577.5	575.7	W (MODEL) LB/S	4.2	2.7	KG/S	1.9	1.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.5	89.8	91.8	92.2	88.0	92.6	97.2	96.6	98.7	102.9	107.4	119.4
.125	88.2	90.8	91.6	93.1	92.1	94.5	95.7	98.0	101.6	104.8	108.3	120.8
.160	94.1	95.6	93.7	93.8	91.5	94.3	95.8	96.1	102.3	106.8	110.7	122.3
.200	92.4	90.8	89.8	92.3	93.6	95.8	97.6	99.5	106.3	111.0	113.3	125.3
.250	92.8	92.0	92.5	94.2	96.0	99.3	99.4	102.6	108.4	113.1	116.3	127.7
.315	94.3	92.9	94.5	96.5	98.6	113.1	101.7	105.7	110.8	115.3	119.9	131.8
.400	97.7	97.1	97.5	97.9	101.0	107.6	105.3	109.3	115.2	119.1	120.7	133.5
.500	98.8	98.3	98.5	100.2	102.5	104.3	105.9	110.9	118.1	121.8	122.2	135.7
.630	100.1	99.7	100.2	102.2	104.7	104.7	108.1	114.0	120.2	122.7	122.8	137.1
.800	100.3	100.9	101.5	102.8	106.5	105.8	109.1	115.4	121.8	123.9	122.1	138.2
1.00	100.7	101.6	102.3	103.8	108.1	108.5	111.2	116.9	123.4	124.2	122.6	139.2
1.25	101.4	103.1	103.7	104.7	108.7	108.5	111.7	117.1	123.9	124.4	122.6	139.5
1.60	101.9	102.3	103.2	104.4	108.5	108.8	112.1	116.9	123.7	124.8	122.4	139.6
2.00	100.9	102.0	102.9	104.4	108.6	108.6	112.2	116.4	122.8	123.6	121.0	138.5
2.50	100.8	101.5	102.7	104.6	108.9	109.1	112.6	116.0	121.6	121.9	118.9	137.4
3.15	100.8	101.4	102.5	104.3	109.0	109.3	112.6	115.4	120.4	119.6	116.7	136.2
4.00	101.0	101.1	102.6	104.4	109.0	109.4	112.5	114.5	118.7	117.4	114.4	134.9
5.00	101.0	100.8	101.9	103.9	108.6	109.1	111.9	113.6	116.9	115.4	112.5	133.6
6.30	100.7	100.7	102.0	104.0	108.5	108.8	111.8	112.7	115.3	113.9	111.0	132.6
8.00	99.2	100.4	101.7	104.0	108.9	108.6	111.1	111.8	113.7	112.8	110.0	131.8
10.0	98.5	100.2	101.6	103.8	108.6	108.5	110.0	110.5	112.6	112.5	110.1	131.1
12.5	98.8	99.7	100.9	103.2	107.7	107.8	109.6	109.2	111.3	111.2	109.0	130.1
16.0	97.3	98.6	100.3	102.4	106.8	106.8	108.4	108.1	109.7	109.5	107.1	128.9
20.0	95.8	97.1	99.0	101.9	105.3	105.5	107.0	106.3	107.6	107.6	104.7	127.3
25.0	94.5	96.3	98.4	100.6	104.1	104.5	105.6	105.6	107.0	106.5	104.0	126.3
31.5	93.2	94.8	97.0	99.3	103.4	103.4	104.6	104.1	105.6	105.1	102.2	125.1
40.0	92.1	94.4	96.1	98.8	102.7	102.9	104.1	103.4	105.0	104.6	101.5	124.5
50.0	91.4	92.9	95.3	97.8	101.9	101.6	102.9	102.6	104.7	105.2	101.8	123.9
63.0	90.2	92.0	94.9	96.9	101.0	101.3	102.7	102.5	105.9	106.3	102.3	124.0
80.0	90.8	93.0	95.1	96.9	101.5	102.3	103.9	104.4	108.5	108.8	105.1	125.8
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 148.9

OSPL 113.0 113.7 114.8 116.6 120.7 121.7 123.6 126.9 132.5 133.6 132.4

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 21

TEST DAY CONDITIONS		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN							
TEMP	90.0(F) 32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.07IN 1.02BAR	P.R.		1.79	2.35		1.79	2.35	THRUST,IOL	LB	211.2	221.2	N	939	984
REL H	29.0Z	TEMP	(R)	1515.0	1665.	(K)	841.7	925.0	THRUST,HEA	LB		0.0	N		0.0
SDSPD	1149FPS 350M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.490	0.475	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
		VEL	FPS	1675.0	2095.1	M/S	510.5	638.6	W (MODEL)	LB/S	4.1	3.4	KG/S	1.8	1.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER IE-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.5	89.6	92.1	92.5	88.1	92.8	96.4	96.7	98.6	102.9	107.4	119.4
.125	88.4	91.0	91.7	93.1	92.3	94.6	94.6	97.2	101.3	104.4	108.1	120.5
.160	94.1	95.7	93.9	93.8	91.5	94.0	95.1	95.8	101.7	106.5	110.2	121.9
.200	92.6	91.2	90.3	92.8	93.9	95.8	97.2	99.2	105.8	110.5	113.2	125.0
.250	92.7	91.9	92.7	94.5	96.5	99.3	99.2	102.2	107.6	112.7	116.0	127.3
.315	93.8	93.0	94.6	96.4	98.6	112.6	101.2	105.1	109.7	114.9	119.6	131.3
.400	97.6	96.9	97.4	97.7	101.2	107.6	104.9	108.5	114.2	118.6	120.5	133.0
.500	98.5	98.1	98.5	100.0	102.3	104.1	105.7	109.7	116.8	121.0	122.1	134.9
.630	100.0	99.7	100.3	102.0	104.5	104.3	107.7	112.4	118.9	122.3	122.7	135.4
.800	100.3	100.9	101.5	102.7	106.3	105.6	108.4	113.4	119.9	123.4	122.4	137.3
1.00	100.9	101.7	102.4	103.6	107.7	108.2	110.4	114.3	120.8	123.6	123.0	137.9
1.25	101.1	103.0	103.6	104.5	108.3	107.8	110.8	114.1	120.0	123.1	122.6	137.4
1.60	102.1	102.3	103.2	104.1	108.2	108.1	111.1	114.1	119.1	122.4	122.2	136.9
2.00	101.3	102.1	103.2	104.3	108.3	108.0	111.3	113.6	117.5	121.0	121.1	135.7
2.50	101.4	101.8	103.0	104.7	108.6	108.5	111.5	113.5	116.4	119.9	120.1	135.0
3.15	101.9	102.1	102.9	104.5	108.8	108.8	111.8	113.3	115.7	119.1	119.3	134.6
4.00	102.0	101.9	103.1	104.8	109.2	109.2	111.9	112.9	115.4	118.8	118.3	134.4
5.00	102.1	101.7	102.6	104.4	109.0	109.1	111.7	112.4	114.9	118.3	117.2	133.9
6.30	101.5	101.6	102.5	104.5	108.8	109.1	111.8	112.1	115.3	117.8	116.0	133.7
8.00	100.3	101.2	102.3	104.5	109.4	109.2	111.6	111.8	115.4	116.4	114.1	133.2
10.0	99.4	100.8	102.0	104.1	108.8	109.0	111.0	111.0	115.0	115.2	112.8	132.5
12.5	100.5	100.6	101.6	103.7	108.2	108.5	110.7	110.7	114.0	113.7	111.1	131.7
16.0	100.3	101.1	101.6	103.2	107.8	108.0	110.1	110.3	112.6	112.6	109.9	131.0
20.0	97.8	99.2	100.7	102.9	106.1	106.8	108.6	108.5	110.5	111.0	107.9	129.3
25.0	95.9	97.7	99.9	102.0	105.4	105.7	107.4	107.9	110.4	110.0	107.1	128.6
31.5	95.0	96.3	98.3	100.7	104.5	105.0	106.4	106.4	109.0	108.9	105.6	127.4
40.0	93.8	95.9	97.6	100.2	104.2	104.6	106.3	106.2	108.8	108.6	105.0	127.1
50.0	93.1	94.5	96.8	99.2	103.4	103.5	105.3	105.7	108.7	108.9	105.5	126.7
63.0	92.1	93.9	96.3	98.4	102.6	103.2	105.1	105.5	109.5	109.9	105.8	126.9
80.0	92.7	94.9	97.0	98.4	103.0	104.3	106.5	107.4	111.7	112.0	108.4	128.6
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 147.9

OSPL 113.7 114.3 115.3 116.9 121.0 121.8 123.6 125.4 130.0 132.9 132.9

A21

20183F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 2018A CONDITION 22

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.07IN	1.02BAR	P.R.		1.36	2.09		1.36	2.09	THRUST,IDL	LB	100.1	185.2	H	445	824
REL H	29.0Z		TEMP	(R)	1323.0	1992.	(K)	735.0	1106.7	THRUST,NEA	LB		0.0	H		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.033	0.024	KG/M3	0.524	0.384	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1154.8	2145.7	M/S	352.0	654.0	W (MODEL)	LB/S	2.8	2.8	KG/S	1.3	1.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	82.9	85.1	87.6	88.4	84.3	88.6	91.1	92.9	94.5	98.3	102.1	114.7
.125	84.6	87.3	88.9	91.6	90.9	92.2	95.4	100.3	102.3	103.3	104.8	119.9
.160	88.5	90.3	89.3	89.4	87.0	90.0	90.7	92.3	97.8	101.8	105.1	117.3
.200	87.3	86.5	86.0	86.3	89.2	91.1	93.0	94.8	101.1	105.1	107.6	119.8
.250	88.5	88.0	88.8	90.7	92.2	95.2	95.3	98.4	103.1	107.2	110.2	122.2
.315	90.5	89.8	90.6	92.3	94.6	109.3	97.4	100.7	104.9	109.4	113.4	126.6
.400	93.1	92.3	93.2	93.9	96.7	103.9	100.4	103.9	108.6	112.3	113.8	127.2
.500	93.9	93.9	94.2	95.7	98.3	99.1	101.0	104.7	110.3	113.3	114.6	128.0
.630	94.8	94.4	95.5	96.9	99.7	99.5	102.6	106.2	110.7	113.2	114.2	128.3
.800	94.7	95.2	95.7	97.6	100.9	100.4	103.1	106.8	110.2	112.1	112.0	127.7
1.00	94.4	95.8	96.7	98.2	101.9	101.7	104.7	107.6	109.9	109.5	109.4	127.2
1.25	94.3	96.0	97.1	98.3	102.2	101.8	105.2	107.8	108.8	107.8	107.0	126.7
1.60	95.1	96.2	97.3	98.7	102.9	102.5	105.8	107.9	108.0	106.8	105.6	126.6
2.00	94.9	96.8	98.3	99.5	103.6	103.2	106.9	108.1	107.6	105.9	105.1	126.8
2.50	96.1	97.4	98.7	100.5	104.5	104.4	108.1	108.2	107.9	106.6	106.4	127.5
3.15	97.0	98.0	99.2	100.9	105.4	105.2	108.9	108.6	108.4	107.9	108.0	128.2
4.00	98.5	98.6	100.0	101.9	106.2	106.1	109.7	109.2	109.4	110.0	110.2	129.3
5.00	99.4	99.0	100.0	101.8	106.5	106.8	109.9	110.0	110.5	111.8	111.5	130.1
6.30	99.5	99.2	100.2	102.3	106.9	107.1	110.1	110.9	112.2	113.5	112.5	130.9
8.00	98.3	99.1	100.3	102.6	107.5	107.4	110.1	111.3	112.7	113.8	112.2	131.3
10.0	96.9	98.8	100.0	102.4	107.2	107.5	109.6	110.6	112.2	112.9	110.3	130.7
12.5	97.2	98.1	99.7	102.2	106.8	107.0	109.2	109.5	111.3	110.7	108.2	129.7
16.0	96.4	97.6	99.3	101.8	106.4	106.8	108.6	109.0	110.3	109.5	107.1	129.0
20.0	94.7	96.3	98.0	101.3	104.8	105.4	107.1	107.4	108.3	107.8	105.2	127.4
25.0	93.6	95.4	97.5	100.0	104.1	104.6	106.1	106.9	107.7	106.8	104.6	126.7
31.5	92.5	94.2	96.6	98.9	103.4	103.8	105.2	105.6	106.7	105.7	103.0	125.7
40.0	91.5	93.6	95.5	98.6	102.8	103.3	104.9	105.2	106.1	105.1	102.4	125.2
50.0	91.0	92.4	94.9	97.7	102.0	102.2	103.9	104.7	105.9	105.3	102.3	124.6
63.0	90.2	91.7	94.5	97.0	101.4	102.0	104.0	104.6	106.5	105.6	101.8	124.0
80.0	90.0	92.6	95.0	97.1	101.8	103.2	105.3	106.3	108.3	107.2	103.4	126.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 142.2

OSPL 109.7 110.5 111.8 113.9 118.2 119.0 121.0 121.9 123.5 124.4 124.3

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 23

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	90.0(F)	32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.07IN	1.02BAR	P.R.		1.46	2.24		1.46	2.24	THRUST,IDL	LB	128.5	208.7	N	571	928			
REL H	29.0%		TEMP	(R)	1398.0	1992.	(K)	776.7	1106.7	THRUST,NEA	LB		0.0	N		0.0			
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.032	0.024	KG/M3	0.505	0.390	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1317.3	2239.7	M/S	401.5	682.6	W (MODEL)	LB/S	3.1	3.0	KG/S	1.4	1.4			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	84.7	87.2	89.3	90.0	85.9	91.2	93.3	94.8	96.4	100.4	104.3	116.8
.125	85.5	88.4	90.3	93.1	92.2	94.4	96.3	99.8	101.4	102.9	105.4	119.9
.160	90.5	92.4	91.0	91.0	88.8	92.1	92.6	93.8	99.4	103.6	107.2	119.1
.200	89.4	88.4	87.8	90.0	91.1	93.3	94.6	97.0	103.0	107.3	109.9	121.9
.250	90.3	89.7	90.3	92.4	94.0	97.1	97.1	100.2	104.9	109.6	112.8	124.4
.315	91.8	91.2	92.4	94.1	96.0	111.1	98.9	102.5	106.8	111.6	116.1	128.6
.400	94.8	94.3	95.1	95.6	98.6	102.3	106.0	111.0	115.0	116.6		129.7
.500	96.0	95.8	96.1	97.5	100.1	101.3	102.9	106.8	112.9	116.8	117.8	131.0
.630	97.4	96.9	97.5	99.2	102.0	101.7	104.6	108.7	113.8	117.2	118.1	131.7
.800	97.2	97.8	98.2	99.6	103.2	102.6	105.4	109.1	113.2	116.9	117.1	131.4
1.00	97.1	98.2	98.9	100.2	104.4	104.0	106.9	109.9	112.9	114.9	115.7	130.8
1.25	96.8	98.5	99.3	100.5	104.5	103.9	107.4	109.9	111.5	112.9	113.7	129.8
1.60	97.5	98.3	99.2	100.6	104.8	104.4	107.7	110.0	110.8	111.3	112.2	129.3
2.00	97.1	98.6	100.1	101.4	105.6	105.1	108.6	109.9	110.1	110.4	111.4	129.2
2.50	98.3	99.3	100.5	102.1	106.4	106.1	109.5	109.9	110.1	110.8	112.1	129.7
3.15	99.2	99.9	100.9	102.7	107.1	106.9	110.1	110.2	110.5	112.1	113.5	130.4
4.00	100.2	100.4	101.6	103.4	107.7	107.7	110.9	110.6	111.5	114.1	114.7	131.5
5.00	101.0	100.5	101.4	103.3	108.0	108.3	111.0	110.8	112.3	115.3	115.0	132.0
6.30	100.7	100.7	101.5	103.7	108.2	108.5	111.3	111.5	114.1	116.2	114.6	132.6
8.00	99.4	100.4	101.5	103.9	109.0	108.9	111.4	112.0	115.0	115.4	112.8	132.8
10.0	98.5	100.1	101.4	103.7	108.7	109.0	110.8	111.7	115.0	114.0	111.3	132.3
12.5	98.8	99.7	100.8	103.3	108.2	108.5	110.6	111.1	114.1	112.3	109.5	131.5
16.0	98.6	99.2	100.7	103.0	107.9	108.2	110.1	110.5	112.4	111.2	108.4	130.7
20.0	97.4	98.3	99.6	102.6	106.4	106.9	108.8	109.2	110.5	109.5	106.3	129.2
25.0	95.6	97.7	99.5	101.5	105.6	106.2	107.8	108.8	110.2	108.6	105.7	128.6
31.5	94.3	96.1	98.4	100.8	105.0	105.6	106.8	107.6	109.2	107.6	104.1	127.6
40.0	93.3	95.4	97.5	100.2	104.5	105.1	106.7	107.2	108.8	107.1	103.4	127.2
50.0	92.8	94.1	96.6	99.3	103.8	104.1	106.0	106.8	108.7	107.5	103.5	126.8
63.0	91.8	93.6	96.4	98.7	103.2	104.2	105.9	107.0	109.6	107.8	103.2	127.0
80.0	92.1	94.4	96.8	98.9	103.8	105.5	107.5	109.0	111.7	110.1	105.4	128.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 144.4

OSPL 111.6 112.3 113.5 115.5 119.8 120.7 122.5 123.5 126.0 127.5 127.7

A23

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 24

TEST DAY CONDITIONS		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN							
TEMP	90.0(F) 32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.07IN 1.02BAR	P.R.		1.52	2.49		1.52	2.49	THRUST,IDL	LB	145.0	245.2	N	645	1091
REL H	30.0%	TEMP	(R)	1502.0	1999.	(K)	834.4	1110.6	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1149FPS 350M/S	RHO	LB/FT3	0.030	0.025	KG/M3	0.474	0.399	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
		VEL	FPS	1432.6	2371.0	M/S	436.7	722.7	W (MODEL)	LB/S	3.3	3.3	KG/S	1.5	1.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.8	89.0	91.2	91.9	87.6	92.2	94.8	96.3	98.0	101.8	106.1	118.4
.125	87.4	90.1	91.6	94.1	93.1	95.0	97.4	101.0	103.0	104.9	107.5	121.5
.160	92.8	94.2	92.7	92.7	90.5	93.4	94.0	95.3	101.2	105.6	109.2	121.0
.200	91.2	90.1	89.6	91.5	92.9	94.6	96.7	98.3	104.8	109.3	111.8	123.8
.250	92.1	91.6	92.1	93.9	95.4	98.7	98.8	101.6	106.7	111.5	114.7	126.2
.315	93.5	92.8	93.8	95.7	98.0	112.5	100.6	104.3	108.8	113.9	118.2	130.5
.400	96.4	96.0	96.5	97.0	100.1	107.1	104.0	107.8	113.3	117.4	118.9	131.9
.500	97.7	97.4	97.7	99.2	101.5	103.2	104.7	108.8	115.6	119.1	120.1	133.3
.630	99.1	98.7	99.3	100.9	103.6	103.3	106.5	111.0	116.8	120.0	120.7	134.4
.800	99.4	99.9	100.3	101.7	105.2	104.5	107.3	111.5	116.5	120.3	120.4	134.5
1.00	99.7	100.5	101.2	102.3	106.2	106.4	109.2	112.1	116.4	119.3	119.9	134.3
1.25	99.4	101.2	101.9	103.0	106.7	106.0	109.5	112.1	114.9	117.8	118.7	133.4
1.60	100.3	100.7	101.7	102.9	106.8	106.6	109.8	112.1	113.9	116.3	117.7	132.7
2.00	99.7	100.9	102.2	103.5	107.4	107.1	110.5	111.9	113.0	115.0	116.8	132.1
2.50	100.5	101.3	102.5	104.1	108.1	109.0	111.3	112.0	113.1	115.4	117.2	132.6
3.15	101.4	101.9	102.7	104.5	108.7	108.7	111.9	112.2	113.6	116.5	117.7	133.2
4.00	102.1	102.1	103.2	105.0	109.3	109.4	112.5	112.2	114.9	118.0	118.0	134.1
5.00	102.4	102.1	103.0	104.9	109.5	109.9	112.6	112.5	115.8	118.5	117.1	134.4
6.30	102.0	102.0	103.0	105.2	109.7	110.1	112.8	113.2	117.4	118.2	115.6	134.7
8.00	101.0	101.8	103.1	105.4	110.3	110.5	113.0	113.7	117.7	116.3	113.6	134.5
10.0	100.4	101.7	103.1	105.2	110.1	110.4	112.5	113.6	116.7	115.0	112.1	133.8
12.5	102.0	101.8	102.8	105.1	109.7	110.1	112.5	113.2	115.2	113.5	110.4	133.1
16.0	101.5	102.4	102.9	104.7	109.3	109.7	111.7	112.8	114.1	112.5	109.5	132.4
20.0	99.2	100.7	102.4	104.7	108.0	108.7	110.5	111.3	112.3	110.9	107.5	131.0
25.0	97.4	99.4	101.6	103.8	107.4	107.9	109.4	110.9	112.0	110.0	106.8	130.4
31.5	96.7	98.1	100.1	102.7	106.9	107.3	108.6	109.6	111.3	109.0	105.4	129.4
40.0	95.6	97.8	99.7	102.2	106.6	106.9	108.5	109.4	110.9	108.8	104.6	129.1
50.0	94.9	96.3	98.9	101.3	105.8	106.1	107.8	109.2	111.1	109.0	105.0	128.8
63.0	93.9	95.7	98.4	100.6	105.4	106.0	108.1	109.6	111.9	109.6	104.9	129.2
80.0	94.1	96.4	98.8	100.8	105.9	107.4	109.8	111.8	114.1	111.6	107.2	130.9
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 146.8

OSPL 113.7 114.3 115.4 117.3 121.5 122.3 124.3 125.6 128.7 130.4 130.7

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 25

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.07IN	1.02BAR	P.R.		1.52	3.20		1.52	3.20	THPUST,IDL	LB	123.1	352.2	N	548	1567
REL H	29.0Z		TEMP	{R}	1499.0	2014.	{K}	832.8	1118.9	THRUST,MEA	LB	0.0		N		0.0
SOSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.026	KG/M3	0.475	0.421	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1431.1	2649.7	M/S	436.2	807.6	W (MODEL)	LB/S	2.8	4.3	KG/S	1.3	1.9

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.3	91.7	93.7	94.1	89.9	94.6	97.9	98.6	100.4	104.8	109.0	121.1
.125	90.1	92.9	94.4	97.3	96.0	97.3	100.0	103.7	106.0	107.8	110.7	124.4
.160	96.1	97.4	95.4	95.7	93.8	96.4	97.3	97.9	103.7	108.2	112.2	123.8
.200	94.4	92.6	91.8	94.3	95.4	97.4	98.9	100.8	107.7	112.3	115.2	126.8
.250	95.0	94.2	94.6	96.6	98.3	101.2	101.0	104.2	109.7	114.5	118.2	129.3
.315	96.2	95.1	96.4	98.3	100.7	114.4	103.2	107.1	111.8	116.8	121.4	133.2
.400	99.5	98.8	99.1	99.7	103.0	109.0	106.8	110.5	116.3	120.4	122.4	134.9
.500	100.4	99.9	100.3	101.9	104.3	105.9	107.4	111.7	118.7	122.6	123.5	136.6
.630	101.8	101.4	102.0	103.7	106.4	106.0	109.3	114.2	120.2	123.4	124.0	137.7
.800	102.1	102.6	103.1	104.5	107.9	107.0	110.2	115.1	120.3	123.9	123.9	138.1
1.00	102.9	103.2	104.1	105.3	109.3	109.5	112.2	116.0	120.5	123.5	123.9	138.2
1.25	102.9	104.4	105.0	106.3	110.0	109.4	113.0	116.1	119.2	122.7	123.4	137.7
1.60	104.2	104.3	105.0	106.3	110.3	110.0	113.4	116.3	118.6	122.3	123.4	137.5
2.00	103.7	104.8	105.7	107.1	110.9	110.5	114.3	116.4	118.3	122.2	123.4	137.5
2.50	104.3	104.8	105.9	107.6	111.5	111.4	115.4	116.5	119.0	123.2	123.6	138.2
3.15	105.0	105.1	105.8	107.6	112.1	112.2	116.0	117.0	120.5	123.8	123.1	138.8
4.00	105.4	105.1	106.4	108.4	112.7	112.9	116.8	117.5	122.2	123.9	121.5	139.4
5.00	105.8	105.1	106.1	108.2	112.8	113.3	116.8	118.2	122.8	122.3	119.0	139.1
6.30	108.4	106.1	106.4	108.7	113.1	113.7	117.3	119.1	123.0	120.3	117.4	139.0
8.00	109.3	108.9	107.5	109.0	114.0	114.1	117.2	119.7	121.2	119.0	115.6	138.5
10.0	107.1	109.2	109.3	109.5	113.9	114.2	116.8	119.3	119.5	117.9	114.1	137.8
12.5	106.0	107.3	108.9	110.5	113.7	113.8	116.6	118.3	118.8	116.4	112.7	137.2
16.0	105.9	106.5	107.6	110.3	114.0	113.6	115.8	117.5	117.8	115.6	111.7	136.5
20.0	104.7	105.8	106.6	109.4	112.7	112.4	114.7	115.9	116.1	114.1	109.9	135.1
25.0	103.2	105.0	106.5	108.5	111.9	111.9	113.7	115.8	116.1	113.5	109.4	134.7
31.5	102.5	104.0	105.8	107.8	111.4	111.5	113.0	114.9	115.5	112.6	108.1	134.0
40.0	101.3	103.6	105.2	107.7	111.4	111.3	113.4	115.0	115.4	112.2	107.7	133.9
50.0	100.6	102.1	104.5	107.0	110.8	110.5	112.8	115.2	115.6	113.0	108.2	133.8
63.0	99.5	101.6	104.1	106.8	110.7	111.1	113.4	115.8	117.0	114.0	108.5	134.5
80.0	99.8	102.4	104.8	107.3	111.8	112.8	115.4	118.5	119.6	116.4	110.9	136.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 151.2

OSPL 118.4 118.8 119.7 121.5 125.4 125.9 128.5 130.6 133.3 134.7 134.7

20192F Q1472 VCE MODEL NOZ. PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/18/78 SCALE RATIO 1.0/1 RUN NUMBER 20192 CONDITION 26

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.18IN	1.02BAR	P.R.		1.58	2.39		1.58	2.39	THRUST,IDL	LB	158.0	226.6	N	703	100A
REL H	17.0%		TEMP	(R)	1420.0	783.	(K)	738.9	435.0	THRUST,NEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.032	0.065	KG/M3	0.508	1.041	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1453.7	1442.0	M/S	443.1	439.5	W (MODEL)	LB/S	3.5	5.1	KG/S	1.6	2.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	84.1	86.7	88.6	89.0	89.0	89.9	90.7	93.9	95.5	99.7	103.6	116.0
.125	86.0	88.9	88.8	89.3	91.2	91.6	90.8	94.2	97.7	101.1	103.7	117.0
.160	90.2	92.0	90.2	90.2	89.7	90.0	90.9	93.0	98.0	102.7	105.5	118.0
.200	89.0	88.7	87.9	90.2	91.6	93.0	94.4	96.8	102.0	107.0	109.1	121.4
.250	89.3	89.3	90.3	91.7	93.0	96.3	96.0	99.7	104.0	109.0	112.1	123.7
.315	90.6	90.4	91.8	93.2	94.7	114.0	97.8	102.4	106.7	111.9	115.6	129.9
.400	93.7	93.8	94.7	95.5	97.6	107.8	101.7	106.2	110.6	115.2	116.0	129.8
.500	95.1	95.6	96.2	97.3	98.2	101.0	102.5	107.0	113.1	117.1	118.5	131.3
.630	97.7	97.6	97.8	99.2	100.0	102.0	104.6	109.9	115.2	119.4	119.1	133.2
.800	96.9	97.5	97.6	99.5	101.0	102.8	105.3	110.5	115.9	119.9	119.0	133.7
1.00	97.7	98.6	98.9	100.8	102.5	105.0	106.9	111.3	116.4	119.4	118.9	133.8
1.25	97.3	98.6	99.5	100.6	101.9	104.3	106.8	110.7	114.9	117.6	117.3	132.4
1.60	96.6	97.7	98.7	99.7	101.8	103.9	106.7	110.5	113.4	115.4	115.2	131.0
2.00	95.5	96.9	98.1	99.3	101.4	103.5	106.6	110.0	112.0	112.3	112.3	129.3
2.50	95.3	96.5	97.6	99.3	101.3	103.6	106.6	109.8	110.8	110.7	109.5	128.4
3.15	95.7	96.5	97.4	99.1	101.2	103.5	106.4	109.2	109.5	108.9	107.0	127.6
4.00	96.2	96.4	97.6	99.3	101.0	103.2	106.0	108.4	108.4	106.7	105.0	126.7
5.00	96.7	96.3	96.9	98.7	100.5	102.7	105.1	107.3	106.9	105.2	103.6	125.7
6.30	96.5	96.3	96.6	98.5	100.3	102.3	104.7	106.7	105.4	103.8	102.5	124.9
8.00	95.8	96.3	96.5	98.1	99.7	101.8	104.0	105.5	104.3	102.5	101.5	124.1
10.0	96.8	96.9	96.6	97.8	99.3	101.3	103.1	104.3	102.9	101.8	100.4	123.4
12.5	102.6	100.6	97.9	97.7	99.0	100.3	102.6	103.3	102.0	100.3	99.1	123.3
16.0	104.1	104.3	102.3	99.9	99.2	99.9	101.9	102.8	101.3	99.5	97.7	124.3
20.0	101.1	103.1	103.5	103.5	100.2	99.6	101.3	102.0	100.0	98.7	96.7	124.3
25.0	99.8	101.0	102.3	104.2	102.6	101.1	101.5	102.7	101.2	99.4	97.8	124.6
31.5	100.1	101.1	101.7	103.6	103.5	103.0	102.2	102.9	101.8	100.5	99.3	124.9
40.0	99.5	101.5	102.5	104.9	104.0	105.0	104.3	103.8	102.4	101.5	100.7	126.0
50.0	99.9	101.1	102.6	106.2	103.8	104.9	105.3	104.7	102.8	102.3	102.0	126.6
63.0	99.5	101.1	102.9	107.3	104.3	104.8	104.8	104.7	103.3	102.8	101.5	126.9
80.0	100.9	102.4	103.8	108.6	106.0	106.0	105.6	105.6	104.2	103.2	101.7	128.0
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 143.2

OSPL 112.7 113.5 113.9 116.2 115.7 119.0 118.7 121.6 124.5 127.4 127.5

20188F Q1259 VCE PRI/FAN NOZ NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 27

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	29.75IN	1.01BAR	P.R.		1.61	3.24		1.61	3.24	THRUST,IDL	LB	143.4	354.4	N	638	1577
REL H	30.0Z		TEMP	(R)	1470.0	1995.	(K)	816.7	1108.3	THRUST,NEA	LB		0.0	N		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.031	0.027	KG/M3	0.492	0.426	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1504.3	2647.9	M/S	458.5	807.1	W (MODEL)	LB/S	3.1	4.3	KG/S	1.4	2.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.1	91.4	93.3	93.7	89.4	94.5	97.9	98.4	103.4	104.4	108.7	120.8
.125	90.7	93.0	94.9	96.9	95.9	97.3	100.2	103.7	106.4	108.5	110.7	124.6
.160	96.2	97.6	95.5	95.6	93.8	95.8	97.3	97.8	103.9	108.8	112.0	124.0
.200	94.3	93.1	91.9	94.1	95.6	97.2	99.2	101.3	107.8	112.5	115.2	126.9
.250	95.0	94.4	94.9	96.8	98.3	101.0	101.2	104.2	109.9	114.6	117.9	129.3
.315	96.2	95.1	96.8	98.5	100.8	114.1	103.5	107.1	111.9	117.5	121.4	133.3
.400	99.5	98.9	99.3	99.7	103.3	108.6	106.8	110.4	116.4	120.6	122.2	134.9
.500	100.5	99.9	100.3	102.0	104.5	105.7	107.6	111.8	119.1	123.0	123.4	136.9
.630	101.9	101.7	102.4	103.5	106.8	106.3	109.6	114.4	120.9	124.2	124.3	138.3
.800	102.3	102.4	103.3	104.5	108.2	106.9	110.2	115.0	120.8	124.6	123.9	138.5
1.00	102.9	103.4	104.2	105.3	109.6	109.3	112.3	116.1	121.0	124.3	124.0	138.7
1.25	102.9	104.7	105.2	106.3	110.3	109.3	113.1	116.1	119.9	123.7	123.9	138.3
1.60	103.9	104.7	105.4	106.3	110.6	110.0	113.5	116.3	119.3	123.8	124.1	138.3
2.00	103.8	104.6	105.9	106.8	111.1	110.3	114.4	116.4	119.0	123.5	123.9	138.2
2.50	104.3	104.7	105.8	107.3	111.7	111.4	115.2	116.6	119.9	124.4	123.9	138.8
3.15	104.9	105.1	105.7	107.4	112.1	111.9	116.1	117.3	121.0	124.6	123.1	139.3
4.00	105.2	105.1	106.2	107.9	112.8	112.7	116.8	117.7	122.8	124.5	121.2	139.7
5.00	105.8	105.1	106.0	108.1	113.0	113.1	116.9	118.0	123.2	122.8	118.9	139.3
6.30	108.9	106.3	106.5	108.4	113.3	113.3	117.2	119.1	123.0	120.8	117.3	139.0
8.00	109.0	109.0	107.9	108.8	114.1	113.9	117.3	119.7	121.5	119.4	115.4	138.6
10.0	106.4	108.7	109.6	109.4	114.0	114.0	117.1	119.4	119.9	118.5	114.1	138.0
12.5	105.3	106.6	108.4	110.2	114.0	113.7	116.6	118.4	118.8	116.9	112.7	137.2
16.0	105.5	106.5	107.4	109.5	114.2	113.4	115.9	117.7	118.0	115.9	111.6	136.6
20.0	104.1	105.4	106.7	109.0	112.8	112.2	114.7	116.2	116.3	114.8	110.0	135.3
25.0	102.7	104.8	106.4	108.1	112.1	111.9	113.8	115.7	116.3	114.0	109.4	134.8
31.5	101.8	103.5	105.4	107.3	111.8	111.2	112.9	114.9	115.6	113.0	108.5	134.0
40.0	100.5	102.9	105.0	107.2	111.6	111.2	113.1	115.2	115.5	113.0	107.7	134.0
50.0	100.0	101.8	104.0	106.4	111.0	110.2	113.0	115.3	116.1	113.4	108.2	134.0
63.0	98.9	101.2	103.6	106.2	110.7	110.7	113.3	116.1	117.0	114.6	108.1	134.5
80.0	99.1	102.1	104.2	106.7	111.7	112.2	115.5	118.5	119.4	116.7	110.2	136.6
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 151.5

OSPL 118.1 118.7 119.6 121.2 125.6 125.7 128.5 130.7 133.7 135.5 134.8

A27

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 28

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.08IN	1.02BAR	P.R.		1.58	3.21		1.58	3.21	THRUST,IDL	LB	136.4	347.9	N	607	1548
REL H	29.0%		TEMP	(R)	1471.0	1284.	(K)	817.2	713.3	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.031	0.042	KG/M3	0.489	0.676	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1478.5	2105.8	M/S	450.6	641.8	W (MODEL)	LB/S	3.0	5.3	KG/S	1.3	2.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.4	90.1	92.1	92.5	87.9	92.7	95.6	96.5	98.6	103.1	107.7	119.4
.125	89.0	91.6	91.4	92.6	92.1	94.8	94.3	97.0	101.2	104.7	108.6	120.6
.160	94.3	95.9	93.7	93.8	91.4	94.1	95.3	96.6	102.1	107.0	110.7	122.3
.200	92.4	91.8	91.0	93.7	94.4	96.3	98.2	99.9	106.0	111.1	113.6	125.4
.250	93.2	92.9	93.3	95.3	96.7	99.5	99.7	102.6	108.0	112.7	116.2	127.5
.315	93.8	93.5	94.9	97.2	99.2	112.9	101.7	105.8	110.1	115.6	119.9	131.7
.400	97.7	97.4	97.7	99.2	101.9	107.7	105.1	108.9	114.4	118.9	120.9	133.3
.500	98.7	99.0	99.3	100.7	102.7	104.1	106.0	110.2	117.1	121.5	122.6	135.4
.630	101.0	100.8	100.7	102.8	105.1	104.6	107.7	112.8	119.2	122.7	123.2	136.8
.800	101.1	101.3	101.4	103.4	106.8	105.8	108.6	113.6	119.5	123.4	122.7	137.2
1.00	101.9	102.5	102.8	104.4	108.3	108.3	110.8	114.7	119.7	122.9	122.8	137.4
1.25	101.9	103.2	103.8	105.1	108.6	107.8	111.0	114.7	118.5	121.7	122.1	136.6
1.60	102.4	103.3	103.6	105.0	108.9	108.2	111.3	114.6	117.5	120.9	121.7	136.1
2.00	102.5	103.5	103.9	105.3	109.1	108.2	111.7	114.5	116.5	119.8	121.3	135.4
2.50	102.8	103.3	103.9	105.9	109.8	109.1	112.4	114.5	116.5	120.2	121.6	135.7
3.15	103.8	103.9	104.0	105.9	109.9	109.3	112.7	114.5	116.5	120.7	121.9	136.0
4.00	104.7	104.2	104.4	106.2	110.2	110.0	113.1	114.7	117.6	122.3	122.1	136.9
5.00	107.9	104.7	104.3	106.1	110.2	109.9	113.1	114.3	117.9	122.2	120.7	136.8
6.30	113.8	110.2	106.3	106.3	110.1	110.0	113.4	114.4	118.7	120.8	118.7	136.6
8.00	111.6	112.2	110.7	108.4	111.0	110.1	113.2	114.6	118.7	118.9	117.0	136.4
10.0	108.5	110.8	111.0	110.7	111.7	110.3	112.9	114.3	117.8	117.9	115.4	135.9
12.5	108.4	108.5	109.1	110.4	112.5	110.2	112.7	113.8	116.5	116.5	114.1	135.1
16.0	108.4	109.4	108.5	109.7	112.9	110.4	112.8	113.4	115.4	115.5	112.9	134.6
20.0	106.6	107.5	108.2	109.2	111.7	109.7	111.2	112.0	113.8	114.2	111.3	133.4
25.0	105.2	106.9	107.3	108.5	110.8	109.9	110.5	111.3	113.5	113.5	110.7	132.9
31.5	104.0	105.6	106.3	107.9	110.4	109.5	109.9	110.6	113.0	112.6	109.7	132.1
40.0	102.9	105.2	105.8	107.7	110.1	109.0	110.0	110.4	112.8	112.6	109.5	131.9
50.0	102.5	104.0	104.9	106.9	109.5	108.0	109.5	110.4	112.9	113.1	109.7	131.7
63.0	101.5	103.4	104.7	106.6	109.4	108.3	109.3	110.5	113.8	113.8	110.0	131.9
80.0	102.0	104.5	105.3	107.1	109.3	109.5	111.1	112.8	116.0	116.0	112.0	133.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 149.3

OSPL 120.1 120.2 119.9 120.9 123.7 123.2 125.1 127.2 130.8 133.7 133.8

2019SF Q1261 VCE MODEL JET PRI/FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/26/78 SCALE RATIO 1.0/1 RUN NUMBER 20195 CONDITION 29

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	88.0(F)	31.1(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	29.82IN	1.01BAR	P.R.		2.39	2.40		2.39	2.40	THRUST,IDL	LB	353.1	229.5	N	1571	1021			
REL H	34.0Z		TEMP	(R)	1466.0	1994.	(K)	814.4	1107.8	THRUST,MEA	LB		0.0	N		0.0			
SOSPD	1147FPS	349M/S	RHO	LB/FT3	0.034	0.025	KG/M3	0.546	0.396	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1984.1	2324.3	M/S	604.7	708.5	W (MODEL)	LB/S	5.7	3.2	KG/S	2.6	1.4			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS												THEORETICAL DAY SPL - (MODEL)	
BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	MICROPHONE ANGLES IN DEGREES					POWER 1E-12W	
	60	70	80	90	100	110	120	130	140	150	160		
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
.100	91.8	94.3	96.1	96.4	95.4	97.3	98.2	101.1	102.8	106.4	111.6	123.3	
.125	93.0	95.8	96.8	98.3	99.4	99.1	100.1	104.1	106.6	108.9	112.5	125.5	
.160	98.9	100.1	98.1	98.4	97.6	98.5	98.7	100.2	105.2	109.6	113.6	125.6	
.200	97.3	96.2	94.9	97.1	97.9	100.5	101.4	104.0	109.9	114.3	117.5	129.1	
.250	97.4	96.6	96.7	98.1	99.7	103.9	102.7	106.3	111.2	115.8	120.3	131.0	
.315	98.1	97.0	98.3	100.4	101.2	119.5	104.7	109.1	113.9	119.0	123.9	136.4	
.400	102.0	101.0	101.2	101.4	103.6	112.1	108.3	112.9	118.3	122.8	124.4	137.1	
.500	102.5	102.8	102.5	103.7	104.2	110.5	108.5	113.7	121.1	125.0	126.9	139.2	
.630	103.7	103.8	104.0	105.3	106.1	107.6	110.3	117.1	123.4	126.7	126.6	140.7	
.800	104.2	104.1	104.5	106.2	107.5	108.8	111.6	117.8	124.9	127.7	126.5	141.6	
1.00	104.3	105.0	105.4	106.8	108.6	111.3	113.5	119.6	126.7	128.1	126.3	142.6	
1.25	104.7	106.0	106.4	107.2	108.8	111.3	114.1	120.0	127.3	128.1	125.6	142.8	
1.60	104.3	105.3	106.0	107.1	109.1	111.4	114.5	119.8	127.5	128.4	124.9	143.0	
2.00	105.4	105.5	106.5	107.4	109.1	111.4	114.8	119.7	127.6	127.3	123.2	142.5	
2.50	109.9	108.4	107.4	108.1	109.7	111.9	115.4	119.6	127.2	126.2	121.6	142.0	
3.15	113.1	112.4	110.7	109.1	109.8	112.3	115.4	119.4	126.1	124.2	119.9	141.0	
4.00	111.6	112.3	112.8	112.5	110.8	112.7	115.9	119.0	125.1	122.6	118.6	140.4	
5.00	109.3	109.5	110.6	112.6	112.5	113.2	115.5	118.3	123.7	121.1	116.7	139.3	
6.30	108.2	108.4	108.7	110.9	112.8	114.1	115.7	117.9	122.8	119.8	115.1	138.5	
8.00	106.1	107.3	108.1	109.8	111.4	114.4	115.9	117.6	121.5	118.7	113.3	137.8	
10.0	104.6	106.0	107.2	109.3	110.8	113.6	115.5	116.8	120.1	116.8	112.0	136.7	
12.5	103.5	104.9	106.0	108.3	110.1	112.6	115.0	116.2	118.8	115.2	110.3	135.7	
16.0	102.2	103.9	105.0	107.5	109.5	111.8	113.8	115.3	117.8	114.3	108.7	134.7	
20.0	100.4	101.9	103.5	106.7	107.8	110.5	112.1	113.4	116.0	112.6	106.8	133.0	
25.0	98.8	100.8	102.5	105.3	107.1	109.3	110.8	112.8	115.9	111.8	106.1	132.4	
31.5	97.4	99.2	101.0	103.9	105.5	108.1	109.6	111.6	115.0	110.8	104.8	131.2	
40.0	96.1	98.4	100.3	103.3	105.0	107.7	109.5	111.4	114.7	110.6	104.6	130.9	
50.0	95.3	97.0	99.2	102.2	103.7	106.4	108.8	111.2	114.9	111.2	105.6	130.7	
63.0	94.4	96.3	98.3	101.1	103.3	106.2	108.6	111.4	115.9	112.1	106.8	131.2	
80.0	95.4	97.5	98.7	101.1	103.5	107.2	110.3	113.6	118.1	114.4	109.8	133.2	
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5	

OAPHL = 153.1

OSPL 119.9 120.1 120.4 121.7 122.7 126.2 127.3 130.9 137.2 137.5 136.0

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 1.0/1 RUN NUMBER 20188 CONDITION 30

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.07IN	1.02BAR	P.R.		2.00	1.99		2.00	1.99	THRUST,IDL	LB	261.9	168.0	N	1165	747
REL H	29.0Z		TEMP	(R)	1571.0	1580.	(K)	872.8	877.8	THRUST,MEA	LB		0.0	N		0.0
SOSPD	1150FPS	350M/S	RHO	LB/FT3	0.030	0.030	KG/M3	0.485	0.482	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1849.4	1852.5	M/S	563.7	564.7	W (MODEL)	LB/S	4.6	2.9	KG/S	2.1	1.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.1	89.7	91.5	92.2	87.8	92.6	96.9	96.1	98.2	102.7	107.3	119.2
.125	88.2	90.8	91.4	92.7	92.0	94.5	95.0	97.2	101.1	104.4	108.2	120.4
.160	93.9	95.7	93.8	93.8	91.4	94.3	95.5	95.7	101.9	106.8	110.6	122.2
.200	92.4	90.9	90.1	92.6	93.5	95.4	97.4	99.0	105.9	110.7	113.4	125.1
.250	92.6	91.7	92.7	94.5	96.2	99.4	99.2	102.2	108.0	112.8	116.6	127.6
.315	93.9	92.7	94.4	96.2	98.4	112.5	101.3	105.0	110.1	115.1	119.9	131.4
.400	97.5	97.1	97.3	97.6	101.0	107.6	104.9	108.6	114.7	118.8	120.6	133.2
.500	98.5	98.2	98.5	100.0	102.2	104.2	105.6	110.2	117.3	121.4	122.4	135.3
.630	100.1	99.5	100.2	101.9	104.4	104.4	107.7	113.3	119.7	122.8	122.9	136.9
.800	100.3	100.6	101.3	102.6	106.2	105.5	108.6	114.6	121.3	123.9	122.6	138.0
1.00	100.6	101.5	101.9	103.5	107.7	108.4	110.7	116.1	122.8	124.2	122.9	138.9
1.25	101.3	103.0	103.4	104.4	108.3	108.2	111.3	116.2	123.2	124.4	122.7	139.1
1.60	101.8	102.0	102.8	104.0	108.2	108.4	111.6	115.9	123.0	124.6	122.5	139.1
2.00	100.6	101.6	102.7	104.0	108.1	108.0	111.8	115.5	121.9	123.4	121.0	138.0
2.50	100.4	101.1	102.3	104.2	108.2	108.5	112.0	115.2	120.7	121.8	118.9	136.9
3.15	100.6	101.0	102.1	103.8	108.4	108.7	112.1	114.9	119.4	119.5	116.6	135.6
4.00	100.7	100.8	102.1	104.1	108.5	108.8	112.0	114.1	118.0	117.3	114.2	134.4
5.00	100.9	100.4	101.8	103.7	108.2	108.7	111.6	113.1	116.2	115.5	112.3	133.2
6.30	100.5	100.5	101.6	103.7	108.1	108.4	111.3	112.3	114.6	113.9	111.0	132.2
8.00	99.2	100.1	101.5	103.7	108.6	108.4	110.7	111.4	113.1	112.6	110.2	131.5
10.0	98.8	100.4	101.6	103.6	108.4	108.2	110.0	110.2	112.0	112.5	110.3	130.9
12.5	99.0	99.8	100.8	102.9	107.4	107.5	109.4	109.0	110.7	110.8	108.9	129.8
16.0	97.6	98.7	100.3	102.3	106.7	106.8	108.5	107.9	109.2	109.4	107.1	128.8
20.0	96.1	97.3	98.8	101.7	105.0	105.2	106.9	106.0	106.9	107.3	104.7	127.0
25.0	94.8	96.3	98.5	100.3	103.8	104.2	105.5	105.4	106.5	106.3	103.7	126.1
31.5	93.5	95.1	97.1	99.3	103.2	103.2	104.4	104.0	105.0	105.0	101.9	124.9
40.0	92.4	94.6	96.4	98.9	102.7	102.8	104.0	103.3	104.2	104.4	101.3	124.3
50.0	91.7	93.1	95.7	98.0	101.8	101.6	102.8	102.5	104.0	104.8	101.5	123.7
63.0	90.7	92.6	95.2	97.1	101.2	101.4	102.8	102.3	105.0	105.9	102.6	123.8
80.0	91.5	93.7	95.7	97.3	101.7	102.6	104.2	104.2	107.7	108.4	105.6	125.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 148.5

OSPL 113.0 113.6 114.6 116.3 120.4 121.3 123.3 126.2 131.8 133.5 132.5

A30

20192F Q1472 VCE MODEL NOZ. PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/18/78 SCALE RATIO 1.0/1 RUN NUMBER 20192 CONDITION 38

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	89.0(F)	31.7(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	30.18IN	1.02BAR	P.R.		1.39	2.41		1.39	2.41	THRUST,IDL	LB	111.3	233.5	N	495	1039			
REL H	17.0Z		TEMP	(R)	1477.0	2004.	(K)	820.6	1113.3	THRUST,MEA	LB		0.0	N		0.0			
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.029	0.025	KG/M3	0.472	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1270.4	2334.9	M/S	387.2	711.7	W (MODEL)	LB/S	2.8	3.2	KG/S	1.3	1.5			

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.0	87.7	90.0	90.6	90.8	91.7	92.9	96.2	97.5	101.4	104.7	117.6
.125	87.1	89.8	91.5	94.0	95.6	94.6	97.4	102.6	103.6	105.6	106.9	122.0
.160	92.0	93.8	92.1	91.9	91.5	92.3	93.2	95.6	100.4	105.1	107.8	120.3
.200	90.5	89.5	88.4	90.8	92.3	93.8	95.5	98.6	104.1	109.0	110.8	123.2
.250	91.1	91.0	91.4	93.1	94.8	98.0	97.5	101.8	106.0	111.0	113.6	125.5
.315	93.2	92.9	93.5	94.9	96.4	116.2	99.7	104.4	108.4	113.6	116.7	131.8
.400	95.8	95.7	96.2	96.7	98.5	108.9	103.0	107.9	112.5	116.8	117.0	131.3
.500	96.8	96.6	96.9	98.5	99.4	102.5	103.5	108.4	114.2	117.8	118.6	132.0
.630	98.4	98.0	98.7	99.9	100.9	102.7	105.3	110.7	115.0	118.7	118.3	132.9
.800	97.7	98.4	98.9	100.4	101.9	103.4	105.9	110.8	114.3	117.7	117.5	132.3
1.00	97.9	99.0	99.7	101.0	102.9	104.9	107.4	111.5	114.0	115.9	115.7	131.7
1.25	97.5	99.4	100.3	101.4	102.8	105.0	107.9	111.5	112.8	113.7	113.8	130.7
1.60	98.5	99.4	100.3	101.7	103.4	105.4	108.3	111.5	111.8	112.5	112.6	130.3
2.00	98.0	99.7	101.0	102.3	103.9	105.9	109.2	111.4	111.1	111.4	112.0	130.0
2.50	99.2	100.3	101.2	103.0	104.7	106.9	110.1	111.6	111.2	112.4	112.7	130.6
3.15	100.3	101.0	101.8	103.5	105.5	107.7	111.0	111.9	111.7	113.9	114.0	131.4
4.00	101.2	101.5	102.4	104.4	106.2	108.6	111.8	112.5	113.1	116.0	115.4	132.7
5.00	101.8	101.4	102.2	104.2	106.4	108.9	111.8	112.9	114.4	117.3	115.6	133.3
6.30	101.6	101.7	102.4	104.5	106.9	109.5	112.3	113.8	116.0	117.6	114.5	133.9
8.00	100.2	101.2	102.4	104.7	107.1	109.8	112.3	114.3	117.0	116.4	112.3	134.0
10.0	99.1	100.9	102.3	104.6	107.2	109.9	111.8	114.1	116.5	115.0	111.0	133.4
12.5	100.4	100.7	101.9	104.3	107.0	109.4	111.5	113.1	114.8	113.1	109.2	132.3
16.0	101.6	101.9	102.0	104.5	107.1	109.2	110.9	112.7	113.7	112.2	107.9	131.8
20.0	99.8	101.7	102.4	104.7	106.3	108.4	110.2	112.0	112.1	110.8	106.4	130.9
25.0	98.3	100.8	102.7	105.0	106.6	108.7	110.0	112.1	112.5	110.5	106.2	131.0
31.5	98.5	100.2	102.3	105.4	107.0	108.8	110.0	111.8	112.4	110.2	106.0	130.9
40.0	98.4	100.9	102.8	106.7	107.9	109.7	110.9	112.6	112.8	110.3	106.0	131.6
50.0	99.0	100.5	102.9	107.3	107.9	109.6	111.0	112.8	113.1	111.0	106.6	131.8
63.0	98.9	100.5	103.4	108.5	108.3	110.4	111.2	113.3	114.0	111.7	106.6	132.5
80.0	99.4	101.4	103.8	109.6	108.9	111.1	112.8	115.1	115.7	112.9	107.6	133.8
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

DAPWL = 146.2

OSPL 113.3 114.3 115.6 118.5 119.8 123.1 124.1 126.3 127.9 129.0 128.2

A31

20191F Q1471 VCE MODEL NOZ. PRI/FAN W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 1.0/1 RUN NUMBER 20191 CONDITION 01E

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.33IN	1.03BAR	P.R.		1.60	2.41		1.60	2.41	THRUST,IDL	LB	166.6	229.8	N	741	1022
REL H	17.0Z		TEMP	(R)	1468.0	1981.	(K)	815.6	1100.6	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.492	0.399	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1490.6	2319.6	M/S	454.3	707.0	W (MODEL)	LB/S	3.6	3.2	KG/S	1.6	1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.3	90.2	92.5	93.1	92.4	93.5	95.3	97.3	99.0	103.5	107.0	119.6
.125	88.3	91.3	91.9	93.1	94.7	94.8	94.1	97.5	101.8	104.8	107.4	120.6
.160	93.8	95.5	93.9	94.1	92.9	94.0	95.2	96.3	102.0	106.9	109.7	122.0
.200	92.4	91.4	90.8	93.1	94.1	96.2	97.8	99.9	106.2	111.0	113.2	125.3
.250	93.0	92.4	93.3	95.2	96.4	99.8	99.7	102.9	107.9	112.9	115.8	127.5
.315	94.5	94.0	95.2	96.8	97.8	116.9	101.8	105.5	110.4	115.6	119.2	133.1
.400	97.8	97.7	98.4	99.0	100.3	111.7	105.2	109.5	114.8	119.1	119.5	133.6
.500	100.3	99.8	100.4	102.1	102.7	106.1	106.0	110.8	117.9	121.5	122.3	135.6
.630	100.4	100.1	100.6	102.0	102.8	104.8	107.6	112.1	118.0	121.7	121.2	135.6
.800	100.0	100.8	101.4	102.9	103.9	105.5	108.1	112.8	117.9	121.9	121.2	135.8
1.00	102.5	103.0	103.6	105.0	105.8	108.1	110.3	113.7	118.2	122.8	122.4	136.8
1.25	100.8	102.4	103.5	104.8	105.7	107.5	110.5	113.3	116.5	119.9	119.5	134.8
1.60	101.1	102.0	103.0	104.5	105.7	107.9	110.6	113.2	115.4	118.6	118.0	134.0
2.00	100.0	102.0	103.3	104.7	106.1	108.1	111.2	113.1	114.9	116.7	116.7	133.2
2.50	101.6	102.4	103.8	105.7	106.8	109.1	112.1	113.3	114.9	116.8	116.2	133.5
3.15	101.9	102.9	104.0	105.8	107.1	109.6	112.7	113.8	115.4	117.0	115.3	133.8
4.00	102.6	103.3	104.5	106.4	107.8	110.4	113.3	114.1	115.8	117.2	114.9	134.3
5.00	103.8	103.5	104.5	106.3	108.3	110.8	113.3	113.9	116.2	116.6	113.0	134.2
6.30	104.5	104.0	105.1	107.5	109.5	111.8	113.5	114.3	116.0	115.8	111.8	134.3
8.00	104.0	104.6	105.9	108.1	110.4	113.0	114.0	114.3	115.5	114.3	109.9	134.4
10.0	103.8	105.7	107.0	108.7	111.8	114.0	115.9	116.3	116.4	113.8	109.6	135.6
12.5	103.8	104.6	105.4	107.7	110.5	112.4	115.6	116.0	114.8	112.1	108.1	134.6
16.0	102.8	103.5	104.7	106.6	109.7	111.2	113.2	114.1	113.1	110.9	106.6	132.9
20.0	101.5	102.9	104.3	106.7	109.5	110.8	112.7	112.5	111.4	109.4	104.2	132.1
25.0	100.7	102.6	104.7	106.4	109.8	110.9	112.8	112.9	111.8	108.9	103.7	132.3
31.5	100.7	102.4	104.9	105.9	110.1	111.3	112.6	113.0	111.8	108.4	102.6	132.2
40.0	100.7	103.1	105.4	105.4	110.9	111.9	113.4	113.3	111.9	108.0	102.2	132.7
50.0	101.5	102.7	105.2	104.0	110.9	111.5	113.5	113.6	112.4	109.0	102.5	132.8
63.0	101.4	102.6	105.7	102.3	111.5	112.5	113.6	114.2	113.3	109.7	102.8	133.3
80.0	101.4	103.3	105.8	100.0	111.8	113.3	115.1	115.7	114.6	110.7	104.2	134.4
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 148.2

OSPL 115.9 116.8 118.2 119.4 122.7 125.3 126.5 127.6 129.4 131.4 131.0

A32

20191F Q1471 VCE MODEL NOZ. PRI/FAN W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 1.0/1 RUN NUMBER 20191 CONDITION 03E

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.33IN	1.03BAR	P.R.		1.60	2.41		1.60	2.41	THRUST, IGL	LB	171.0	229.4	N	761	1020
REL H	16.0Z		TEMP	(R)	1485.0	1694.	(K)	825.0	941.1	THRUST, NEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.030	0.029	KG/M3	0.486	0.470	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1500.2	2141.1	M/S	457.3	652.6	W (MODEL)	LB/S	3.7	3.4	KG/S	1.7	1.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.9	89.5	91.9	92.4	92.0	93.0	94.7	96.7	98.7	102.9	106.6	119.1
.125	88.0	90.8	91.1	92.2	94.1	94.4	93.9	96.9	101.1	104.3	107.0	120.1
.160	93.0	94.8	93.2	93.1	92.2	93.6	94.7	95.7	101.5	106.3	109.3	121.5
.200	91.6	90.9	90.0	92.6	93.8	95.8	97.4	99.5	105.6	110.6	112.6	124.8
.250	91.9	91.7	92.8	94.7	95.7	99.0	99.2	102.5	107.3	112.3	115.0	126.8
.315	93.7	93.4	94.5	96.2	97.4	116.4	101.1	105.1	110.1	115.1	118.9	132.7
.400	97.0	97.2	98.4	98.7	100.1	111.4	104.8	108.9	114.4	118.8	119.1	133.2
.500	99.8	99.5	100.4	101.9	102.2	105.7	105.7	110.4	117.4	121.2	121.9	135.2
.630	100.0	99.7	100.3	101.7	102.3	104.3	107.1	111.8	117.9	121.6	121.0	135.5
.800	99.7	100.4	101.1	102.7	103.7	105.4	107.8	112.4	117.9	121.8	121.1	135.7
1.00	102.5	103.0	103.4	104.3	105.7	108.1	109.9	113.5	118.6	123.0	122.3	136.9
1.25	100.6	102.0	103.2	104.4	105.3	107.1	109.9	112.9	116.6	119.8	119.3	134.6
1.60	100.8	101.5	102.4	103.9	105.2	107.2	110.0	112.7	115.4	118.5	117.8	133.7
2.00	99.8	101.7	102.9	104.1	105.5	107.6	110.5	112.8	114.7	116.4	116.2	132.8
2.50	100.9	101.8	103.2	105.1	106.1	108.4	111.3	112.9	114.4	116.2	115.5	132.9
3.15	101.5	102.2	103.5	105.1	106.4	108.7	111.6	113.1	114.6	116.1	114.6	133.0
4.00	101.9	102.6	103.7	105.6	107.0	109.3	112.2	113.1	114.7	116.3	114.2	133.3
5.00	103.1	102.8	103.7	105.5	107.4	109.6	112.0	112.7	114.8	115.6	112.5	133.1
6.30	103.8	103.1	104.3	106.3	108.3	110.6	112.1	112.8	114.3	114.9	111.5	133.0
8.00	103.0	103.3	104.7	106.7	108.9	111.4	112.9	112.5	113.9	113.6	109.5	133.0
10.0	102.5	104.1	105.5	106.9	110.0	111.9	114.6	114.1	114.9	113.0	108.9	133.9
12.5	102.6	103.2	104.3	105.9	109.2	110.8	114.0	114.4	114.1	111.4	107.5	133.3
16.0	102.9	103.2	103.9	105.0	108.4	109.9	111.8	112.8	112.1	110.2	106.2	131.8
20.0	101.6	102.7	104.0	105.0	107.9	109.2	111.2	110.9	110.4	108.8	104.0	130.7
25.0	100.3	102.3	104.4	104.6	108.7	109.5	111.2	111.2	110.5	103.3	103.4	130.9
31.5	100.0	101.6	104.0	103.7	108.8	109.6	110.9	111.2	110.5	107.3	102.1	130.7
40.0	99.7	101.6	104.0	103.0	109.5	110.2	111.6	111.4	110.4	107.1	101.4	131.0
50.0	100.2	101.4	104.1	101.5	109.2	109.9	111.6	111.6	110.8	108.0	101.8	131.1
63.0	99.8	101.0	104.0	99.7	109.5	110.3	111.6	112.0	111.4	108.6	102.0	131.3
80.0	99.5	101.3	103.7	97.2	109.5	110.8	112.5	112.9	112.4	109.3	103.0	132.0
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

CAPHL = 147.4

OSPL 115.2 115.9 117.4 118.2 121.4 124.1 125.2 126.3 128.7 131.1 130.6

A33

20191F Q1471 VCE MODEL NOZ. PRI/FAH W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 1.0/1 RUN NUMBER 20191 CONDITION 04E

TEST DAY CONDITIONS				PRIMARY FAH		PRIMARY FAH		PRIMARY FAH		PRIMARY FAH						
TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.33IN	1.03BAR	P.R.		1.60	2.41		1.60	2.41	THRUST,IDL	LB	165.6	230.8	H	737	1627
REL H	17.0Z		TEMP	(R)	1446.0	1267.	(K)	803.3	703.9	THRUST,MEA	LB	0.0	0.0	H	0.0	0.0
SOSPD	1146FPS	349M/S	RND	LB/FT3	0.031	0.040	KG/M3	0.500	0.636	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1485.7	1849.1	M/S	452.8	563.6	W (MODEL)	LB/S	3.6	4.0	KG/S	1.6	1.8

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.3	88.1	90.2	90.9	90.4	91.5	93.1	95.1	96.8	101.3	105.2	117.5
.125	86.5	89.4	89.9	90.8	92.3	93.1	92.4	95.3	99.5	102.6	105.5	118.5
.160	91.8	93.6	92.1	92.0	90.5	92.1	93.1	94.4	100.2	104.8	107.7	120.0
.200	90.2	89.5	89.4	91.5	92.3	94.7	96.2	98.1	103.8	108.8	111.0	123.2
.250	90.4	90.2	91.7	93.2	94.3	97.3	97.7	100.7	105.4	110.3	113.4	125.0
.315	92.1	91.8	93.5	95.1	95.9	114.7	99.5	103.5	108.4	113.5	117.3	131.0
.400	95.9	96.2	97.6	97.9	99.2	110.7	103.5	107.5	113.0	117.6	118.1	132.1
.500	98.6	98.4	99.5	100.7	101.0	104.4	104.4	109.2	116.1	120.1	120.8	134.1
.630	98.7	98.5	99.1	100.5	101.0	103.1	105.7	110.8	116.5	120.4	120.1	134.3
.800	98.7	99.0	99.8	101.3	102.3	104.1	106.4	111.2	116.8	120.7	119.9	134.6
1.00	101.9	102.0	102.6	103.4	104.5	107.2	108.8	112.6	117.9	122.1	121.5	136.0
1.25	99.3	100.7	101.8	103.1	103.7	105.8	108.4	111.7	115.6	118.6	118.2	133.5
1.60	99.3	100.1	101.1	102.6	103.6	105.7	108.3	111.3	114.2	117.1	116.4	132.3
2.00	98.3	100.0	101.3	102.3	103.5	105.7	108.6	111.2	113.4	114.5	114.4	131.1
2.50	99.2	100.0	101.6	103.2	104.1	106.4	109.2	111.4	112.9	113.9	113.2	131.0
3.15	99.9	100.4	101.9	103.2	104.2	106.4	109.2	111.3	112.5	113.6	112.5	130.9
4.00	100.3	101.1	102.1	103.4	104.8	106.8	109.5	111.1	111.9	113.4	112.3	130.8
5.00	101.3	101.0	101.8	103.4	104.9	107.0	109.1	110.3	111.5	113.1	111.0	130.4
6.30	101.4	100.7	101.8	103.6	105.5	107.4	109.7	110.1	110.6	112.0	109.6	130.1
8.00	100.1	100.3	101.9	103.4	105.3	107.7	110.2	109.7	109.7	110.6	107.7	129.8
10.0	99.5	100.6	101.9	103.1	105.5	107.4	110.6	110.3	110.2	110.1	106.6	129.9
12.5	101.0	100.9	101.4	102.4	104.9	106.4	109.4	110.2	110.4	108.7	105.1	129.3
16.0	103.0	103.0	103.0	102.6	104.9	106.0	108.1	109.2	108.9	107.5	103.8	128.7
20.0	100.9	102.0	103.7	103.4	104.6	105.2	107.2	106.9	106.2	105.8	101.5	127.5
25.0	99.3	101.2	103.4	103.4	105.7	105.6	107.2	107.4	106.4	104.9	100.8	127.7
31.5	99.1	100.4	102.9	102.4	106.3	106.2	107.2	107.3	106.3	104.2	99.4	127.6
40.0	98.8	100.5	102.9	101.6	107.0	107.1	108.1	107.9	106.5	104.0	99.0	128.0
50.0	99.1	99.9	102.8	100.0	106.8	107.0	108.2	108.0	106.8	104.9	100.0	128.1
63.0	98.8	99.8	103.0	98.3	107.2	107.5	108.2	108.4	107.5	105.7	100.5	128.4
80.0	98.5	100.2	102.7	95.9	107.3	108.0	109.1	109.4	108.4	106.9	102.1	129.0
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 145.4

OSPL 113.8 114.4 115.8 116.2 118.8 121.6 122.3 123.9 126.7 129.6 129.4

20191F Q1471 VCE MODEL NOZ. PRI/FAH W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 1.0/1 RUN NUMBER 20191 CONDITION 19E

 PRIMARY FAH PRIMARY FAH PRIMARY FAH PRIMARY FAH

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.33IN	1.03BAR	P.R.		2.07	2.12		2.07	2.12	THRUST, IOL	LB	282.2	187.0	H	1255	832
REL H	20.0Z		TEMP	(R)	1557.0	1627.	(K)	865.0	903.9	THRUST, MEA	LB	0.0		H		0.0
SOSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.494	0.475	AREA (MOD)	SQFT	0.03	0.05	SQM	0.008	0.005
			VEL	FPS	1885.4	1955.1	M/S	574.7	595.9	W (MODEL)	LB/S	4.8	3.1	KG/S	2.2	1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.3	91.7	94.1	93.9	93.4	95.5	96.0	98.2	100.4	105.0	109.3	121.2
.125	90.2	92.9	93.5	94.4	96.2	97.0	95.8	98.5	102.8	106.3	109.8	122.3
.160	96.2	97.9	95.7	95.9	94.6	96.9	96.7	97.8	103.4	108.6	111.9	123.9
.200	94.1	92.7	92.1	94.3	95.3	98.6	99.2	101.2	107.6	112.6	115.4	127.0
.250	94.6	93.4	94.8	96.3	97.5	102.6	100.8	104.2	109.4	114.3	118.0	129.2
.315	96.2	95.3	96.8	98.3	99.2	120.9	102.8	106.9	112.2	117.5	121.9	136.3
.400	101.3	101.3	102.3	103.0	103.7	112.1	108.2	112.7	118.3	122.0	122.3	136.4
.500	101.8	102.1	102.9	104.2	103.9	108.5	108.3	113.5	120.4	124.0	124.9	138.1
.630	102.1	101.9	102.4	103.5	104.1	106.6	109.1	115.2	121.6	125.1	124.2	138.9
.800	102.2	102.3	103.1	104.5	105.5	107.3	110.2	116.5	123.1	126.2	124.3	140.0
1.00	103.4	103.7	104.5	105.9	107.3	109.9	112.5	118.6	125.3	126.8	124.3	141.2
1.25	103.4	104.5	105.6	106.3	107.3	110.0	113.0	118.5	125.1	126.2	123.5	140.9
1.60	102.7	103.6	104.9	105.9	107.3	109.8	113.3	118.0	124.8	125.9	122.5	140.6
2.00	102.0	103.5	104.8	105.7	107.1	110.0	113.5	117.8	124.1	124.2	120.6	139.5
2.50	102.8	103.3	104.7	106.4	107.7	110.6	114.3	117.9	123.2	123.1	118.3	138.8
3.15	103.0	103.5	104.8	106.2	107.6	110.6	114.4	117.5	121.8	120.7	115.5	137.5
4.00	103.4	103.7	104.8	106.5	108.0	110.7	114.4	116.9	120.4	118.4	113.8	136.4
5.00	104.4	103.8	104.5	106.3	108.2	110.7	113.9	115.8	118.7	116.5	111.2	135.2
6.30	103.8	103.7	104.5	106.5	108.4	110.8	113.5	115.0	116.9	114.5	109.4	134.2
8.00	102.4	102.9	104.1	106.3	108.3	110.9	113.1	113.7	115.0	112.4	106.8	133.1
10.0	101.1	102.7	104.2	105.8	108.4	110.5	113.3	113.0	113.7	111.0	105.2	132.6
12.5	101.0	102.0	103.0	105.2	107.7	109.5	112.7	112.6	112.7	108.9	103.5	131.7
16.0	99.9	100.9	102.3	104.4	107.1	108.7	110.9	111.5	111.3	107.9	102.0	130.5
20.0	98.2	99.2	100.9	103.9	106.1	107.3	109.4	109.3	109.1	106.0	99.7	128.9
25.0	97.2	98.7	100.6	103.2	106.0	106.9	108.7	109.0	108.9	105.1	98.8	128.5
31.5	97.1	98.6	100.6	103.1	105.7	106.9	108.5	108.8	108.5	104.4	97.7	128.2
40.0	97.0	98.7	100.7	103.6	106.0	107.3	108.9	109.0	108.3	104.2	97.7	128.4
50.0	97.6	98.3	100.7	103.4	105.7	106.9	108.8	108.9	108.7	105.1	99.4	128.4
63.0	97.2	98.2	100.8	103.5	106.1	107.3	108.6	109.2	109.7	106.6	101.2	128.8
80.0	97.1	98.7	100.8	103.2	106.0	107.8	109.7	110.2	111.3	108.5	103.8	129.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

DAPHL = 150.6

OSPL 115.6 116.1 117.3 119.0 120.7 125.3 125.8 128.9 134.0 135.3 133.5

A35

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 1.0/1 RUN NUMBER 20189 CONDITION 01ET

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 88.0(F) 31.1(C) AREA SQFT 0.0 0.0 SQM 0.0 0.0 MASS FLOW LB/S 0.0 0.0 KG/S 0.0 0.0
 PRES 29.75IN 1.01BAR P.R. 1.59 2.41 1.59 2.41 THRUST,IDL LB 163.0 229.1 N 725 1019
 REL H 36.0Z TEMP (R) 1474.0 1990. (K) 818.9 1105.6 THRUST,MEA LB 0.0 0.0 N 0.0 0.0
 SDSPD 1147FPS 349M/S RHO LB/FT3 0.031 0.025 KG/M3 0.489 0.398 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1491.3 2327.1 M/S 454.5 709.3 W (MODEL) LB/S 3.5 3.2 KG/S 1.6 1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.8	89.7	91.7	92.0	87.0	92.4	94.3	95.8	97.9	102.0	106.5	118.5
.125	87.9	91.1	92.4	94.4	93.2	95.6	97.3	101.4	103.6	105.4	108.7	122.0
.160	93.5	95.2	93.5	93.2	90.8	93.8	94.7	95.6	101.1	105.7	110.0	121.4
.200	91.9	90.9	90.2	92.6	93.1	95.3	96.8	99.0	105.3	110.0	113.0	124.6
.250	92.7	92.6	92.9	94.6	95.8	99.4	99.0	102.2	107.3	112.0	115.8	127.0
.315	94.7	93.8	95.1	96.5	98.6	112.6	100.9	105.0	109.1	114.3	119.3	131.0
.400	97.5	97.1	97.6	98.3	101.3	107.4	104.4	108.3	113.8	117.9	120.0	132.5
.500	102.7	100.6	100.7	103.7	106.5	107.7	105.5	110.5	118.1	122.2	123.3	136.3
.630	100.1	99.7	100.2	101.7	104.3	104.5	106.7	111.4	116.9	120.6	121.9	135.0
.800	99.9	100.3	101.0	102.4	105.5	104.8	107.2	111.6	116.7	120.9	121.0	135.0
1.00	102.6	103.2	103.3	103.5	107.7	107.6	109.2	112.4	117.0	121.9	123.0	136.2
1.25	100.3	102.0	102.6	103.8	107.2	106.7	109.2	112.1	115.1	118.4	119.9	133.8
1.60	100.8	101.6	102.0	103.6	107.1	107.0	109.2	112.0	114.3	117.0	118.2	133.0
2.00	100.0	101.7	102.5	103.7	107.2	107.4	109.9	111.9	113.5	115.2	116.9	132.2
2.50	100.9	101.6	103.0	104.8	108.1	108.1	110.4	111.9	113.1	115.3	116.5	132.4
3.15	101.7	102.3	103.3	104.9	108.4	108.5	111.4	112.2	113.4	115.5	116.0	132.7
4.00	102.2	102.9	103.7	105.4	109.1	109.5	111.7	112.3	114.1	116.0	115.7	133.2
5.00	103.9	103.3	103.9	106.0	109.7	110.4	111.7	112.7	114.9	116.2	115.2	133.6
6.30	107.7	104.8	105.6	109.7	112.8	114.1	112.3	114.2	117.4	119.4	118.1	136.1
8.00	104.9	105.3	106.8	108.9	113.0	113.4	114.0	114.1	115.4	115.1	113.5	134.9
10.0	105.4	106.8	109.1	111.1	115.0	115.3	117.2	117.2	117.7	116.0	113.9	137.2
12.5	103.4	104.1	104.6	106.8	110.8	111.4	113.6	114.0	113.6	113.0	111.1	133.5
16.0	102.1	102.8	103.7	105.8	110.0	110.3	111.7	112.1	112.6	111.8	109.4	132.1
20.0	100.3	101.6	102.9	105.5	108.7	109.7	111.3	111.2	110.9	110.2	108.7	131.1
25.0	98.2	100.1	102.0	104.4	107.6	108.6	109.9	110.4	110.4	109.0	105.6	130.1
31.5	96.7	98.2	100.4	103.2	107.2	107.8	109.2	109.3	109.5	107.8	103.7	129.2
40.0	95.3	97.4	99.6	102.6	106.5	107.3	109.1	109.2	109.1	107.2	102.4	128.8
50.0	94.6	96.0	98.4	101.5	105.4	106.3	108.4	109.0	109.0	107.4	102.4	128.3
63.0	93.0	94.8	97.5	100.8	104.8	106.4	108.4	109.2	109.5	107.8	101.9	128.3
80.0	92.9	94.9	97.5	100.2	105.2	107.4	110.0	110.9	111.4	109.5	103.1	129.7
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPNL = 147.4

OSPL 115.7 115.9 117.1 119.2 122.8 123.8 124.8 126.1 128.4 130.9 131.7

A36

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 1.0/1 RUN NUMBER 20189 CONDITION 03ET

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 87.0(F) 30.6(C) AREA SQFT 0.0 0.0 SQM 0.0 0.0 MASS FLOW LB/S 0.0 0.0 KG/S 0.0 0.0
 PRES 23.75IN 1.01BAR P.R. 1.60 2.41 1.60 2.41 THRUST,JOL LB 162.7 228.5 N 724 1017
 REL H 37.0Z TEMP (R) 1469.0 1697. (K) 816.1 942.8 THRUST,HEA LB 0.0 0.0 N 0.0 0.0
 SDSPD 1146FPS 349M/S RHO LB/FT3 0.031 0.029 KG/M3 0.491 0.469 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1492.2 2145.3 M/S 454.8 653.9 W (MODEL) LB/S 3.5 3.4 KG/S 1.6 1.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS												THEORETICAL DAY SPL - (MODEL)	
BAND	MICROPHONE ANGLES IN DEGREES											POWER	
CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	1E-12W	
.050	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
.100	86.1	88.8	91.0	91.7	86.4	91.7	93.9	95.4	97.4	101.5	106.2	118.0	
.125	87.4	90.5	90.9	92.1	91.2	94.4	94.1	97.2	100.9	103.4	107.4	119.8	
.160	92.8	94.6	92.9	92.7	90.1	93.3	94.0	94.9	100.8	105.2	109.2	120.8	
.200	91.4	90.4	89.8	92.3	92.9	95.1	96.4	98.3	104.7	109.3	112.3	123.9	
.250	92.3	92.0	92.9	94.5	95.7	99.1	98.4	101.7	106.7	111.5	115.3	126.5	
.315	93.8	93.1	94.7	96.1	98.3	112.7	100.5	104.6	108.9	113.8	118.7	130.7	
.400	98.7	97.5	97.9	98.7	102.6	107.6	104.1	108.5	114.0	118.2	120.0	132.7	
.500	107.0	103.4	103.0	105.5	110.8	110.8	106.6	113.1	120.7	125.2	124.9	138.9	
.630	99.8	99.4	99.8	101.4	104.0	104.4	106.5	111.3	117.0	120.5	121.5	134.8	
.800	99.3	99.9	100.4	102.0	105.1	104.7	106.9	111.2	116.6	120.6	120.5	134.7	
1.00	103.8	104.0	103.7	103.8	108.4	108.2	109.2	112.3	117.4	122.8	123.4	136.7	
1.25	99.9	101.5	102.2	103.4	106.8	106.5	108.9	111.8	115.3	118.2	119.2	133.6	
1.60	100.4	101.1	101.5	103.0	106.6	106.6	108.6	111.7	114.3	116.7	117.6	132.7	
2.00	99.4	101.1	102.0	103.1	106.9	106.8	109.2	111.6	113.3	114.7	115.9	131.7	
2.50	100.5	101.1	102.5	104.1	107.5	107.5	109.7	111.5	112.8	114.3	115.4	131.7	
3.15	101.3	101.7	102.8	104.5	107.9	108.0	110.4	111.6	112.8	114.5	114.8	131.9	
4.00	101.9	102.5	103.3	104.9	108.6	108.9	110.8	111.7	113.0	114.5	114.6	132.2	
5.00	104.6	103.4	104.0	107.1	110.5	110.9	110.9	111.9	114.7	116.1	116.9	133.6	
6.30	109.0	105.1	106.4	112.3	115.5	115.8	112.3	112.8	118.5	120.4	122.6	137.6	
8.00	103.6	104.3	105.1	107.3	111.2	111.5	112.6	112.1	113.2	113.6	113.4	133.2	
10.0	103.7	105.1	106.1	107.7	111.8	112.2	114.6	114.1	114.4	113.6	112.3	134.3	
12.5	103.6	103.7	103.8	105.8	109.5	110.0	112.4	112.6	112.3	112.2	112.1	132.4	
16.0	102.4	103.0	103.4	105.0	108.8	109.0	110.5	110.6	111.1	110.8	109.7	131.0	
20.0	100.2	101.3	102.4	104.7	107.0	107.8	109.4	109.1	109.2	109.3	107.6	129.6	
25.0	97.9	99.6	101.5	103.7	106.2	107.1	108.3	108.5	108.9	108.3	106.7	129.8	
31.5	96.2	97.6	99.7	102.2	105.7	106.2	107.3	107.3	107.7	107.0	104.8	127.6	
40.0	94.7	96.6	98.9	101.6	105.1	105.7	107.0	106.8	107.2	106.4	103.8	127.1	
50.0	93.8	94.9	97.5	100.5	104.0	104.4	106.3	106.7	106.8	106.5	103.7	126.5	
63.0	92.0	93.8	96.5	99.6	103.1	104.5	106.0	106.7	107.2	107.0	103.2	126.4	
80.0	91.8	93.9	96.3	98.9	103.4	105.1	107.5	108.1	109.3	108.9	104.5	127.7	
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5	
												OAPWL = 147.2	

OSPL 116.0 115.6 116.4 118.9 122.5 123.2 123.6 125.0 128.3 131.4 132.1

A37

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 1.0/1 RUN NUMBER 20189 CONDITION 04ET

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	87.0(F)	30.6(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0			
PRES	29.75IN	1.01BAR	P.R.		1.60	2.40		1.60	2.40	THRUST,IDL	LB	161.9	225.7	H	720	1004			
REL H	37.0%		TEMP	(R)	1468.0	1262.	(K)	815.6	701.1	THRUST,MEA	LB		0.0	H		0.0			
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.040	KG/M3	0.492	0.638	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1493.9	1839.7	M/S	455.3	560.7	W (MODEL)	LB/S	3.5	3.9	KG/S	1.6	1.8			

BAND CENTER FREQ (KHZ)	1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS											THEORETICAL DAY SPL - (MODEL)
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.4	88.2	90.2	91.0	86.4	92.8	93.2	94.3	96.4	100.5	105.3	117.2
.125	87.0	90.0	90.0	91.1	90.4	95.0	92.9	95.5	99.8	102.6	106.7	119.0
.160	92.2	93.9	92.3	91.8	89.5	94.0	93.8	94.7	100.1	104.7	108.8	120.4
.200	90.9	90.4	89.8	92.4	92.9	96.5	96.6	98.1	104.4	108.8	111.8	123.6
.250	92.1	92.3	92.9	94.8	95.7	100.2	98.3	101.3	106.5	111.1	114.8	126.2
.315	93.9	93.8	95.1	96.5	98.4	114.0	100.6	104.6	108.8	113.6	118.5	131.1
.400	105.0	104.2	109.7	108.0	107.5	109.3	107.0	113.8	121.3	126.0	126.2	139.7
.500	111.5	110.4	116.4	114.5	113.6	112.9	111.4	119.6	127.5	132.4	132.3	145.9
.630	99.6	99.3	100.0	101.4	103.9	104.3	106.3	111.3	116.9	120.5	121.5	134.8
.800	100.3	101.1	101.2	102.7	105.7	105.1	107.2	112.1	117.6	121.6	122.3	135.7
1.00	104.3	105.6	104.9	106.3	108.9	108.3	110.2	114.7	120.4	124.7	126.9	139.1
1.25	99.6	101.5	102.2	104.0	106.9	106.1	108.5	111.9	116.4	119.3	120.4	134.4
1.60	100.2	100.7	101.4	102.7	106.5	106.2	108.2	111.5	115.5	117.8	118.3	133.3
2.00	99.2	100.7	101.4	102.3	106.2	106.0	108.4	111.3	114.0	115.4	116.5	131.9
2.50	99.5	100.2	101.3	103.0	106.4	106.3	108.5	110.9	113.2	114.3	114.9	131.3
3.15	100.4	100.7	101.8	103.0	106.7	106.3	108.8	110.8	112.2	113.5	114.0	130.9
4.00	100.6	101.2	101.9	103.3	107.0	106.9	108.7	110.3	111.5	113.1	113.8	130.7
5.00	101.9	101.3	101.7	103.5	107.2	107.3	108.4	109.5	110.9	112.8	113.0	130.4
6.30	102.9	101.7	102.3	104.2	108.2	108.2	109.5	109.3	110.2	112.3	112.4	130.5
8.00	101.9	101.9	102.6	104.1	108.3	108.5	110.3	109.6	109.3	111.1	110.7	130.4
10.0	100.9	102.1	102.3	103.8	107.7	107.7	110.5	110.0	109.9	110.3	109.5	130.3
12.5	102.8	102.7	102.1	102.6	106.2	106.1	108.2	108.9	109.0	108.4	107.5	128.9
16.0	102.3	103.1	103.0	103.0	105.6	105.5	107.0	107.1	107.6	107.1	105.9	128.0
20.0	99.8	101.3	102.2	103.5	104.6	104.2	105.6	105.0	104.9	104.8	103.2	126.5
25.0	97.5	99.4	100.8	102.2	104.0	103.5	104.4	104.7	103.8	103.3	101.9	125.5
31.5	95.8	97.6	99.1	100.8	103.7	103.0	103.4	103.1	102.5	101.7	99.9	124.3
40.0	94.1	96.2	98.1	100.0	102.8	102.7	103.0	102.5	101.5	100.7	98.8	123.6
50.0	92.9	94.3	96.5	98.6	101.6	101.2	102.1	101.8	101.1	100.9	98.9	122.6
63.0	91.1	92.9	95.6	97.6	100.6	100.9	101.4	101.7	101.4	101.9	98.9	122.3
80.0	90.8	93.1	95.2	96.7	100.6	101.3	102.3	102.7	103.3	104.8	100.8	123.2
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 149.2

OSPL 116.2 116.2 119.3 118.9 120.7 121.4 121.7 125.1 130.6 134.9 135.4

ORIGINAL PAGE IS
OF POOR QUALITY

A38

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

SE 2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 1.0/1 RUN NUMBER 00200 CONDITION 19ET

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	0.0	0.0	SGM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	PG/S	0.0	0.0
PRES	29.75IN	1.01BAR	P.R.		2.07	2.10		2.07	2.10	THRUST, IDL	LB	276.2	181.2	H	1228	806
REL H	36.0Z		TEMP	(R)	1583.0	1639.	(K)	879.4	910.6	THRUST, MEA	LB		0.0	H		0.0
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.030	0.029	KG/M3	0.486	0.470	AREA (MOD)	SQFT	0.08	0.05	SGM	0.008	0.005
			VEL	FPS	1900.2	1951.7	M/S	579.2	594.9	W (MODEL)	LB/S	4.7	3.0	KG/S	2.1	1.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.3	99.9	92.7	93.2	88.5	95.5	97.8	96.9	99.5	103.5	103.6	120.3
.125	89.4	92.4	92.7	94.2	93.2	97.5	96.9	98.3	102.3	105.5	110.0	121.9
.160	95.7	97.4	95.0	94.7	92.4	96.1	96.8	96.8	102.8	107.4	112.1	123.3
.200	94.1	92.7	91.8	94.3	94.9	98.5	98.6	100.4	107.1	112.0	115.2	126.6
.250	95.0	94.2	94.5	96.2	97.6	102.5	100.4	103.7	109.2	114.1	118.1	129.1
.315	96.9	96.1	97.4	99.3	101.0	114.9	103.4	108.0	113.0	116.8	121.8	133.6
.400	116.7	116.8	118.9	119.6	120.9	124.3	122.5	128.9	134.8	135.4	133.5	150.8
.500	113.5	113.4	115.7	116.3	117.7	121.1	119.0	125.4	131.4	132.4	130.7	147.6
.630	102.2	101.7	102.1	103.5	106.4	106.8	108.8	114.7	120.9	124.2	124.9	138.4
.800	113.1	109.2	110.4	117.4	120.9	117.3	114.2	120.3	136.5	135.8	135.1	151.0
1.00	111.5	108.4	109.3	115.6	119.2	115.9	114.0	119.9	134.9	134.1	133.5	149.4
1.25	109.4	105.4	106.8	106.0	113.4	111.5	112.8	118.4	127.3	127.8	127.5	142.9
1.60	105.4	105.2	104.7	106.3	111.1	109.6	112.6	117.8	125.4	126.2	123.2	141.0
2.00	107.6	107.5	105.5	107.8	111.4	109.6	112.8	117.7	124.8	125.0	122.5	140.2
2.50	108.3	107.9	107.3	107.7	110.9	110.9	112.8	117.4	124.3	124.8	121.8	140.0
3.15	107.1	107.5	107.4	107.7	110.6	110.3	112.9	117.1	122.3	121.9	118.9	138.1
4.00	106.0	106.0	106.8	107.9	110.8	110.6	112.9	116.4	121.8	120.8	117.3	137.5
5.00	105.4	104.8	105.3	106.9	110.7	110.7	112.5	115.1	120.0	118.6	114.9	136.0
6.30	104.1	103.8	104.4	106.3	110.6	111.0	112.7	114.6	118.6	116.9	113.0	135.0
8.00	102.3	103.1	104.0	105.9	110.5	111.2	112.6	113.5	116.9	115.3	110.7	134.1
10.0	101.5	102.8	103.9	105.7	109.9	110.6	112.3	112.4	115.5	113.9	109.0	133.1
12.5	101.0	101.7	102.4	104.4	108.7	109.3	111.2	111.5	114.1	111.8	107.0	131.8
16.0	99.8	100.7	101.5	103.6	107.8	108.0	109.5	110.3	113.0	110.8	105.7	130.6
20.0	98.1	98.9	99.9	102.8	105.8	106.4	107.6	108.1	110.9	108.9	103.9	128.7
25.0	96.6	97.8	98.9	101.4	104.7	105.4	106.4	107.4	110.6	108.0	103.4	127.9
31.5	95.2	96.3	97.6	100.1	104.1	104.5	105.2	106.1	109.7	107.0	102.1	126.8
40.0	93.7	95.3	96.8	99.3	103.1	103.7	104.8	105.6	109.5	106.9	102.5	126.4
50.0	92.9	93.7	95.3	97.9	101.8	102.2	103.7	105.1	109.8	107.4	105.3	126.1
63.0	91.8	93.1	94.6	96.8	100.8	102.2	103.1	105.3	111.4	108.5	108.2	126.8
80.0	92.7	93.8	94.7	96.3	101.0	102.7	104.2	106.8	114.2	111.5	112.1	129.1
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 156.9

OSPL 121.9 121.2 122.6 124.6 127.4 128.3 127.4 132.7 141.6 141.5 140.4

A39

20187F Q1256 VCE PRI. ONLY, NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/03/78 SCALE RATIO 1.0/1 RUN NUMBER 20187 CONDITION 01P

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.60	1.00		1.60	1.00	THRUST,IDL	LB	168.7	0.0	N	750	0
REL H	29.0Z		TEMP	(R)	1456.0	0.	(K)	808.9	0.0	THRUST,MEA	LB	0.0	0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031*****		KG/M3	0.496*****		AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1484.0	0.0	M/S	452.3	0.0	W (MODEL)	LB/S	3.7	0.0	KG/S	1.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.9	79.4	82.1	83.1	83.0	83.4	85.4	86.2	89.4	92.9	96.7	109.3
.125	78.8	82.2	82.7	83.0	84.9	85.4	84.5	87.2	92.6	94.7	97.4	110.9
.160	82.6	85.2	84.2	83.7	82.9	84.0	84.9	85.6	92.8	96.9	99.6	112.0
.200	81.7	81.7	81.5	83.8	85.4	86.4	88.5	89.3	96.8	100.6	102.8	115.2
.250	83.5	83.8	84.8	86.6	87.4	88.5	90.5	92.2	98.9	102.9	105.4	117.6
.315	85.5	85.4	86.7	87.9	89.5	92.6	93.0	95.5	101.5	105.6	109.5	120.7
.400	87.8	87.9	89.8	90.6	92.4	94.0	96.3	98.8	105.4	109.1	110.4	123.4
.500	91.1	90.4	91.6	92.9	93.6	95.0	97.7	100.4	108.5	111.9	112.8	126.1
.630	92.9	92.5	93.1	94.6	95.5	96.9	99.6	103.2	110.4	113.6	114.0	127.8
.800	92.9	94.5	94.6	95.6	97.0	98.1	100.8	104.8	112.3	115.1	113.9	129.1
1.00	94.2	94.6	95.2	96.5	98.6	100.4	103.0	106.1	113.5	115.3	114.0	129.9
1.25	94.6	96.5	96.9	97.8	99.4	100.6	103.4	106.1	113.6	114.9	114.1	129.9
1.60	95.7	96.2	97.1	97.7	99.6	101.3	104.0	106.1	112.6	114.7	114.5	129.6
2.00	94.5	95.3	96.9	97.8	99.5	101.0	104.1	105.7	110.7	112.6	113.0	128.0
2.50	94.0	94.8	96.2	97.5	99.5	101.3	104.2	105.1	108.9	110.2	110.6	126.5
3.15	93.6	94.6	95.6	97.4	99.4	101.2	104.1	104.5	107.2	107.8	108.1	125.3
4.00	93.7	94.2	95.4	97.2	99.3	101.2	103.9	103.9	105.6	105.6	105.5	124.3
5.00	93.8	93.5	94.8	96.6	98.9	100.8	103.2	102.7	104.0	103.5	102.8	123.1
6.30	93.2	93.2	94.7	96.5	98.4	100.6	102.8	101.8	102.6	101.5	100.8	122.2
8.00	91.3	92.8	94.1	96.1	98.5	100.2	102.1	100.7	101.2	99.7	98.3	121.4
10.0	89.7	92.2	93.6	95.5	97.8	99.7	101.4	99.3	99.7	98.0	96.2	120.5
12.5	89.9	91.3	92.7	94.6	96.8	98.6	100.2	98.1	98.0	95.8	93.7	119.3
16.0	89.1	90.5	91.7	93.8	96.1	97.8	99.3	96.8	96.4	93.9	91.6	118.2
20.0	87.3	88.5	90.4	92.9	94.2	96.0	97.5	94.6	93.8	91.4	89.0	116.4
25.0	85.9	87.6	89.5	91.5	93.1	94.8	95.9	93.5	92.8	90.0	87.7	115.2
31.5	84.6	86.5	88.3	90.0	92.2	93.9	94.4	91.7	91.4	88.2	86.6	113.8
40.0	83.8	86.1	88.0	90.0	91.8	93.3	94.2	91.0	90.7	88.4	87.9	113.4
50.0	83.8	84.9	87.6	89.3	91.3	92.2	93.2	90.7	91.5	90.2	91.2	113.0
63.0	83.4	85.0	87.9	89.0	91.3	92.1	93.4	91.3	94.0	92.5	95.4	113.8
80.0	84.5	86.1	88.8	89.4	92.4	93.2	95.2	93.1	97.2	95.3	100.2	115.8
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 128.9

OSPL 105.7 106.5 107.6 109.0 110.9 112.6 115.0 116.0 121.6 123.6 123.5

20187F Q1256 VCE PRI. ONLY, NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/03/78 SCALE RATIO 1.0/1 RUN NUMBER 20187 CONDITION 14P

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.61	1.00		1.61	1.00	THRUST,IDL	LB	170.9	0.0	N	760	0
REL H	28.0Z		TEMP	(R)	1989.0	0.	(K)	1105.0	0.0	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.023*****		KG/M3	0.361*****		AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1747.1	0.0	M/S	532.5	0.0	H (MODEL)	LB/S	3.1	0.0	KG/S	1.4	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	80.2	82.7	86.4	86.7	86.4	86.2	89.5	91.4	92.9	96.2	99.9	112.9
.125	81.7	84.8	86.4	87.0	89.0	88.6	89.9	93.9	96.5	98.2	100.7	114.8
.160	85.5	87.9	87.8	86.4	85.7	87.0	88.6	90.6	95.6	99.6	102.6	115.0
.200	85.0	84.7	84.8	86.2	87.9	88.5	91.3	94.1	99.9	103.8	105.8	118.3
.250	87.0	87.1	88.2	88.9	89.9	90.7	93.4	97.4	102.2	106.2	108.2	120.8
.315	88.9	88.5	90.1	90.7	92.2	96.6	96.3	101.0	105.0	109.1	112.2	124.0
.400	91.1	91.0	93.3	93.4	94.8	96.4	99.6	104.6	109.2	112.4	113.1	126.9
.500	94.0	93.3	94.9	95.6	96.2	97.1	101.0	106.2	112.0	114.9	114.9	129.2
.630	95.2	94.6	96.5	96.9	98.1	99.5	103.4	109.2	114.1	116.4	115.6	130.9
.800	95.6	96.9	98.1	98.4	99.8	100.6	104.9	111.6	116.1	117.5	115.2	132.4
1.00	96.5	97.2	98.7	99.4	101.6	103.1	107.2	113.5	117.9	117.8	115.8	133.6
1.25	97.8	99.3	100.6	100.5	102.3	103.5	107.8	114.0	118.7	118.0	116.3	134.2
1.60	99.4	101.1	101.1	103.0	104.7	108.3	114.2	118.0	119.3	117.3		134.8
2.00	98.5	99.5	101.4	101.5	103.3	104.6	108.8	113.5	118.0	119.2	117.4	134.3
2.50	98.1	98.9	100.8	101.5	103.5	105.1	108.9	112.5	116.4	117.5	115.8	133.1
3.15	98.1	98.6	100.4	101.3	103.3	105.3	108.9	111.6	114.6	115.9	114.3	131.8
4.00	97.8	98.1	99.9	101.2	103.1	105.2	108.4	110.5	112.8	113.9	111.9	130.4
5.00	97.6	97.3	99.1	100.3	102.9	104.9	107.9	109.1	110.7	111.7	109.5	129.0
6.30	96.5	96.9	99.1	100.1	102.4	104.7	107.5	108.2	109.3	109.6	107.6	127.9
8.00	94.5	96.0	98.3	99.8	102.6	104.1	106.6	106.8	107.4	107.5	105.1	126.6
10.0	92.9	95.2	97.8	99.2	101.7	103.5	105.7	105.3	105.6	105.7	102.9	125.4
12.5	93.1	94.4	96.5	98.2	100.6	102.4	104.7	103.8	103.7	103.3	100.3	124.0
16.0	92.0	93.5	95.8	97.4	99.9	101.5	103.4	102.6	101.9	101.1	98.1	122.7
20.0	90.2	91.6	94.3	96.5	98.0	99.6	101.4	100.4	99.1	98.5	95.2	120.7
25.0	88.8	90.7	93.6	95.1	96.7	98.4	99.9	98.9	97.9	96.6	93.3	119.4
31.5	87.6	89.5	92.1	93.4	96.0	97.2	98.4	97.1	95.9	94.5	91.5	117.8
40.0	86.7	89.2	91.8	93.5	95.3	96.6	97.9	96.6	94.9	93.7	91.5	117.3
50.0	86.7	88.0	91.4	92.8	94.5	95.3	96.7	96.1	95.2	94.4	94.2	116.7
63.0	86.3	88.0	91.7	92.4	94.4	95.2	96.7	96.6	97.6	96.5	97.9	117.3
80.0	87.0	89.4	92.5	92.6	95.2	96.3	98.4	99.0	100.9	99.3	102.7	119.4
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPHL = 143.7

OSPL 109.1 109.8 111.7 112.5 114.5 116.2 119.4 123.1 127.0 127.9 126.5

20187F Q1256 VCE PRI. ONLY, NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/03/78 SCALE RATIO 1.0/1 RUN NUMBER 20187 CONDITION 15P

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		1.60	1.00		1.60	1.00	THRUST,IDL	LB	168.8	0.0	N	751	0
REL H	28.0Z		TEMP	(R)	1692.0	0.	(K)	940.0	0.0	THRUST,MEA	LB		0.0	N		0.0
SOSPD	1145FPS	349M/S	RHO	LB/FT3	0.027*****	KG/M3	0.425*****	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005		
			VEL	FPS	1603.4	0.0	M/S	488.7	0.0	W (MODEL)	LB/S	3.4	0.0	KG/S	1.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.5	80.9	84.5	84.7	84.5	84.8	87.3	89.7	91.1	94.4	98.2	111.1
.125	79.9	83.0	84.5	84.7	86.7	86.6	87.1	91.5	94.5	96.4	98.7	112.8
.160	84.0	86.4	86.4	85.1	84.1	85.4	86.8	88.7	94.1	98.2	100.9	113.5
.200	83.4	83.1	83.7	85.1	86.7	87.2	89.8	92.4	99.4	102.1	104.1	116.7
.250	85.1	85.3	86.7	87.6	88.4	89.4	92.0	95.9	100.6	104.3	106.9	119.2
.315	87.1	86.7	88.7	89.4	90.6	94.4	94.6	99.2	102.9	107.1	110.6	122.2
.400	89.3	89.6	91.7	92.0	93.6	95.1	98.1	102.7	107.4	110.7	111.6	125.2
.500	92.5	91.9	93.3	94.1	94.8	96.0	99.3	104.2	110.3	113.3	113.6	127.6
.630	94.0	93.4	95.2	95.7	96.8	98.2	101.7	107.2	112.2	114.9	114.7	129.4
.800	94.2	95.5	96.7	96.8	98.3	99.4	102.8	109.2	114.2	116.3	114.4	130.8
1.00	95.4	95.8	97.4	98.0	100.1	101.8	105.2	111.0	115.9	116.8	114.9	132.0
1.25	96.4	98.1	99.1	99.2	100.9	102.2	105.7	110.9	116.3	116.5	115.3	132.1
1.60	97.6	97.9	99.6	99.4	101.4	103.1	106.0	110.8	115.6	117.1	116.1	132.2
2.00	96.7	97.5	99.7	99.7	101.4	102.9	106.4	110.2	114.1	116.0	115.7	131.2
2.50	96.2	97.0	99.1	99.5	101.5	103.2	106.5	109.6	112.3	114.1	113.5	129.9
3.15	96.0	96.7	98.2	99.4	101.3	103.2	106.5	108.8	110.3	112.1	111.5	128.6
4.00	95.7	96.2	98.1	99.2	101.2	103.1	106.1	107.9	108.7	109.8	109.2	127.3
5.00	95.6	95.4	97.4	98.5	100.7	102.8	105.6	106.7	106.9	107.8	106.5	126.1
6.30	95.0	95.1	97.4	98.3	100.4	102.6	105.3	106.0	105.5	105.6	104.3	125.2
8.00	92.7	94.2	96.6	97.7	100.4	102.0	104.3	104.5	103.5	103.5	102.0	124.0
10.0	91.2	93.4	95.8	97.3	99.6	101.5	103.5	103.2	102.0	101.6	99.7	122.9
12.5	91.5	92.6	94.9	96.3	98.6	100.4	102.5	101.7	100.2	99.2	97.2	121.6
16.0	90.5	91.7	94.2	95.4	97.9	99.5	101.2	100.4	98.6	97.2	94.8	120.4
20.0	88.5	89.9	92.7	94.6	95.9	97.8	99.5	98.4	95.9	94.5	91.9	118.5
25.0	87.1	89.0	91.9	93.2	94.8	96.6	98.0	97.0	94.9	92.8	90.1	117.3
31.5	85.9	88.0	90.6	91.9	94.0	95.4	96.5	95.2	93.2	90.6	88.4	115.9
40.0	85.1	87.6	90.3	91.7	93.5	94.8	95.9	94.7	92.2	90.1	89.0	115.3
50.0	85.1	86.4	89.8	91.1	92.7	93.6	94.9	94.1	92.8	91.4	91.9	114.8
63.0	84.6	86.3	90.3	90.7	92.7	93.5	94.9	94.4	95.3	93.8	95.9	115.4
80.0	85.4	87.4	91.0	91.1	93.4	94.5	96.4	96.7	98.7	96.8	100.5	117.4
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

DAPWL = 141.3

OSPL 107.4 108.1 110.1 110.7 112.7 114.4 117.2 120.4 124.1 125.7 125.0

20187F Q1256 VCE PRI. ONLY, NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/03/78 SCALE RATIO 1.0/1 RUN NUMBER 20187 CONDITION 17P

TEST DAY CONDITIONS				PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN						
TEMP	85.0(F)	29.4(C)	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
PRES	30.10IN	1.02BAR	P.R.		2.01	1.00		2.01	1.00	THRUST, IOL	LB	267.3	0.0	N	1189	0
REL H	28.0%		TEMP	(R)	1467.0	0.	(K)	815.0	0.0	THRUST, MEA	LB	0.0	0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.033*****	KG/M3	0.521*****	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005		
			VEL	FPS	1793.0	0.0	M/S	546.5	0.0	W (MODEL)	LB/S	4.8	0.0	KG/S	2.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 15.0FT RADIUS

THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	82.0	84.6	87.2	87.5	87.4	90.5	90.5	90.0	92.0	97.7	101.9	114.1
.125	83.1	86.3	86.5	87.4	89.6	92.2	89.9	90.7	94.5	99.1	102.3	115.1
.160	88.1	90.1	88.5	88.3	87.9	91.4	90.4	89.3	94.9	101.5	104.7	116.6
.200	86.9	86.5	86.2	88.6	90.0	93.2	93.2	93.4	99.5	105.8	108.0	120.0
.250	87.9	87.9	89.0	90.4	91.5	95.1	94.8	96.2	101.5	107.9	111.0	122.3
.315	89.5	89.3	90.9	92.3	93.8	101.0	97.3	99.9	104.3	110.8	115.1	125.7
.400	92.6	92.6	93.8	94.7	96.8	100.7	101.0	103.3	108.5	114.4	116.0	128.3
.500	95.7	95.0	95.9	97.1	97.9	101.4	102.0	104.8	111.7	117.3	118.2	130.9
.630	97.6	97.0	97.3	99.1	99.8	103.5	104.2	108.2	114.0	119.1	119.3	132.8
.800	97.0	98.4	98.8	99.9	101.6	104.4	105.5	110.1	116.0	120.8	119.0	134.2
1.00	98.3	99.1	99.3	100.9	103.1	106.9	108.1	112.3	118.1	121.1	119.0	135.2
1.25	99.0	101.2	101.7	102.3	104.1	107.3	109.0	113.0	119.1	121.2	119.2	135.7
1.60	100.7	101.0	101.8	102.5	104.6	108.3	109.5	113.3	119.3	122.0	120.0	136.3
2.00	100.2	101.0	102.1	102.9	104.6	108.2	110.1	112.9	118.9	121.9	119.7	136.0
2.50	100.2	100.6	101.7	103.2	105.0	108.8	110.4	112.5	118.0	121.4	119.0	135.5
3.15	100.5	100.6	101.2	102.9	104.8	108.9	110.5	111.9	116.9	120.2	117.6	134.6
4.00	99.8	100.1	101.0	102.7	104.7	109.0	110.5	111.3	115.5	118.5	115.7	133.4
5.00	99.8	99.4	100.3	102.2	104.6	108.6	110.1	110.2	114.0	116.7	113.5	132.2
6.30	99.3	99.4	100.4	102.1	104.3	108.7	110.0	109.6	112.7	115.1	112.0	131.2
8.00	97.3	98.8	99.9	101.9	104.4	108.5	109.3	108.5	111.2	113.3	110.0	130.1
10.0	96.1	98.0	99.5	101.6	103.9	108.1	108.8	107.4	109.6	111.9	108.2	129.1
12.5	95.9	97.3	98.7	100.7	103.1	107.3	108.0	106.1	107.9	110.0	106.5	127.9
16.0	94.9	96.6	97.7	100.0	102.6	106.6	107.0	104.9	106.5	108.6	104.8	126.8
20.0	93.1	94.7	96.6	99.3	101.0	105.0	105.5	103.1	104.2	106.6	102.6	125.1
25.0	91.7	93.6	95.9	98.1	100.0	104.1	104.0	102.2	103.5	105.4	101.2	124.1
31.5	90.6	92.7	94.5	96.6	99.1	103.2	102.7	100.6	102.0	104.0	99.4	122.8
40.0	89.6	92.3	94.2	96.6	98.6	102.6	102.6	100.3	101.2	103.9	98.6	122.4
50.0	89.6	91.0	93.8	96.0	98.0	101.6	101.6	99.7	101.4	103.9	99.5	121.9
63.0	87.1	91.0	94.0	95.6	97.9	101.5	101.3	99.8	102.7	104.9	101.2	122.3
80.0	87.9	92.0	94.7	95.9	98.6	102.6	102.6	101.5	104.9	106.6	105.1	123.8
100.	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	36.5

OAPWL = 145.9

OSPL 111.2 111.9 112.9 114.4 116.5 120.4 121.4 123.0 128.1 131.3 129.7

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 31

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	88.0(F)	31.1(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	512.6	456.5	KG/S	232.5	207.1
PRES	30.10IN	1.02BAR	P.R.		1.59	2.39		1.59	2.39	THRUST,IDL	LB	*****	*****			
REL H	37.0%		TEMP	(R)	1464.0	2008.	(K)	813.3	1115.6	THRUST,MEA	LB	0.0	0.0	H	0.0	0.0
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.493	0.393	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1484.7	2327.8	M/S	452.5	709.5	W (MODEL)	LB/S	3.6	3.2	KG/S	1.6	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	101.4	100.9	102.1	103.5	105.9	106.3	108.7	113.7	119.3	122.7	123.3	157.0
.063	101.6	102.0	103.1	104.2	107.4	107.1	109.5	114.3	119.4	123.3	122.8	157.3
.080	101.9	102.7	103.7	104.7	108.7	108.9	111.4	114.7	119.5	122.6	122.5	157.2
.100	101.6	103.6	104.6	105.4	109.1	108.7	111.7	114.7	117.9	121.0	122.0	156.2
.125	102.1	102.9	104.4	105.2	109.2	109.2	111.8	114.6	116.9	119.6	120.9	155.5
.160	101.7	102.9	104.6	105.6	109.4	109.4	112.3	114.4	115.8	118.3	119.7	154.8
.200	102.4	103.1	104.8	106.3	110.3	110.2	113.1	114.4	115.6	118.4	119.6	155.0
.250	103.2	103.6	105.0	106.5	110.7	110.7	113.6	114.5	115.9	118.9	119.8	155.4
.315	103.8	103.9	105.5	107.0	111.1	111.7	114.2	114.7	116.7	120.2	119.9	156.1
.400	104.1	103.6	105.1	106.8	111.3	111.9	114.1	114.5	117.5	120.4	119.0	156.2
.500	103.6	103.5	104.9	107.0	111.4	112.2	114.4	115.1	118.7	119.9	117.3	156.3
.630	102.4	103.3	104.9	107.0	111.7	112.2	114.4	115.3	119.0	118.2	115.3	156.0
.800	101.4	103.1	105.1	107.0	111.7	112.6	114.2	115.5	118.4	116.7	113.9	155.6
1.00	102.4	102.5	104.6	106.5	111.2	112.0	113.8	114.8	116.6	114.9	111.9	154.6
1.25	102.4	103.0	104.3	106.1	110.8	111.5	112.8	114.2	115.3	113.7	110.8	153.7
1.60	99.9	101.6	103.5	105.5	109.1	109.8	111.5	112.5	113.2	112.1	108.5	152.1
2.00	98.1	100.3	103.0	104.8	108.4	109.4	110.6	111.9	113.1	111.1	107.6	151.4
2.50	96.6	98.4	101.0	103.3	107.6	108.3	108.9	110.3	111.9	109.8	106.0	150.1
3.15	95.3	97.5	100.0	102.5	106.8	107.7	108.7	109.9	111.3	109.1	105.0	149.5
4.00	94.3	95.6	98.8	101.1	105.5	106.1	107.6	109.1	110.9	109.0	104.9	148.6
5.00	92.5	94.3	97.9	99.8	104.3	105.4	106.9	108.8	111.2	109.4	104.4	148.4
6.30	91.7	94.2	97.7	99.1	104.1	106.0	108.1	110.2	112.6	110.8	105.6	149.4
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

POWER
1E-12W

OAPHL = 168.2

OASPL 114.7 115.4 117.1 118.7 122.9 123.4 125.5 127.1 130.0 132.0 131.7
 PNL 123.0 124.4 126.6 128.5 132.8 133.5 135.1 136.5 138.6 138.3 136.5

200. SIDELINE

PNL 119.0 121.1 123.8 125.9 130.0 130.2 131.1 131.3 131.6 129.2 123.9

370. SIDELINE

PNL 113.1 115.2 117.9 119.9 124.0 124.2 125.0 125.1 125.3 123.2 117.7

800. SIDELINE

PNL 105.0 107.1 109.8 111.8 115.8 115.9 116.6 116.7 116.9 115.0 109.3

2128. SIDELINE

PNL 93.7 95.2 97.6 99.6 103.6 103.6 104.7 104.4 104.9 103.1 97.3

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 02

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	509.8	476.6	KG/S	231.2	216.2
PRES	30.10IN	1.02BAR	P.R.		1.59	2.38		1.59	2.38	THRUST,IDL	LB	*****	*****		*****	*****
REL H	38.0%		TEMP	(R)	1466.0	1825.	(K)	814.4	1013.9	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.027	KG/M3	0.492	0.434	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1484.1	2214.1	M/S	452.4	674.9	W (MODEL)	LB/S	3.5	3.3	KG/S	1.6	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	101.2	100.6	101.7	103.3	105.8	106.1	108.5	113.6	119.2	122.6	123.2	156.8
.063	101.3	101.8	102.8	103.8	107.4	106.9	109.2	114.1	119.4	123.3	122.7	157.2
.080	101.7	102.5	103.5	104.5	108.5	108.7	111.1	114.5	119.4	122.5	122.5	157.1
.100	101.3	103.2	104.4	105.1	108.7	108.5	111.5	114.5	117.9	121.0	121.8	156.1
.125	102.0	102.6	103.9	104.9	108.8	109.0	111.5	114.4	116.9	119.5	120.6	155.3
.160	101.4	102.5	104.1	105.1	109.0	109.0	111.8	114.1	115.5	118.0	119.4	154.5
.200	102.0	102.8	104.3	105.8	109.8	109.9	112.6	114.1	115.3	117.7	119.2	154.6
.250	102.8	103.2	104.4	105.9	110.1	110.3	113.0	114.1	115.3	118.2	119.2	154.8
.315	103.3	103.4	105.0	106.5	110.7	111.2	113.6	114.2	115.8	119.3	119.5	155.4
.400	103.6	103.2	104.5	106.4	110.7	111.4	113.4	113.9	116.5	119.8	118.7	155.5
.500	103.2	103.1	104.5	106.4	110.8	111.5	113.7	114.4	117.8	119.4	117.3	155.7
.630	101.8	103.0	104.4	106.4	111.2	111.7	113.6	114.4	118.1	118.0	115.5	155.4
.800	101.2	102.9	104.4	106.6	111.0	111.9	113.6	114.5	117.9	116.6	114.0	155.0
1.00	102.3	102.4	103.9	105.8	110.4	111.4	113.2	113.7	116.1	114.8	112.0	154.0
1.25	102.7	103.3	103.9	105.7	110.1	110.7	112.2	113.1	114.8	113.6	110.8	153.2
1.60	100.3	102.0	103.6	105.2	108.4	109.4	110.8	111.6	112.8	111.9	108.6	151.6
2.00	98.0	100.2	102.6	104.5	107.8	108.7	109.8	110.8	112.6	110.9	107.7	150.8
2.50	96.5	98.3	100.6	103.0	107.1	107.5	108.2	109.3	111.3	109.5	106.2	149.5
3.15	95.0	97.6	99.5	102.2	106.3	106.8	107.8	108.8	110.7	108.8	105.0	148.8
4.00	94.0	95.6	98.1	100.5	104.9	105.1	106.5	108.0	110.1	108.8	105.0	147.9
5.00	92.5	94.4	97.2	99.4	103.6	104.5	106.0	107.8	110.5	109.2	104.3	147.7
6.30	91.8	94.4	97.0	98.8	103.4	104.9	107.0	109.2	112.0	110.2	105.7	148.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 167.8

OASPL 114.5 115.2 116.6 118.3 122.4 122.9 124.9 126.5 129.6 131.7 131.5
 PNL 122.9 124.3 126.1 128.2 132.2 132.8 134.4 135.7 138.0 137.9 136.4

200. SIDELINE

PNL 118.9 121.0 123.3 125.5 129.4 129.5 130.3 130.4 131.0 128.9 123.7

370. SIDELINE

PNL 113.0 115.1 117.4 119.5 123.4 123.5 124.2 124.3 124.8 122.8 117.6

800. SIDELINE

PNL 104.9 107.1 109.4 111.4 115.3 115.2 115.9 115.8 116.2 114.6 109.1

2128. SIDELINE

PNL 93.3 95.0 97.2 99.2 103.1 103.1 104.0 103.7 104.2 102.7 97.0

B2

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 03

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	514.1	495.4	KG/S	233.2	224.7
PRES	30.10IN	1.02BAR	P.R.		1.61	2.38		1.61	2.38	THRUST, IOL	LB	*****	*****	*****	*****	*****
REL H	39.0Z		TEMP	(R)	1467.0	1683.	(K)	815.0	935.0	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.493	0.472	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1498.6	2124.1	M/S	456.8	647.4	W (MODEL)	LB/S	3.6	3.4	KG/S	1.6	1.6

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	101.2	100.4	101.5	103.0	105.6	106.1	108.4	113.5	119.3	122.7	123.2	156.9
.063	101.1	101.5	102.7	103.7	107.1	106.6	109.1	114.1	119.5	123.2	122.6	157.2
.080	101.5	102.3	103.3	104.5	108.4	108.4	110.9	114.6	119.6	122.6	122.5	157.1
.100	101.3	103.1	104.4	104.9	108.5	108.3	111.2	114.4	118.2	121.1	121.8	156.2
.125	101.8	102.5	103.7	104.7	108.5	108.7	111.3	114.2	117.1	119.8	120.6	155.3
.160	101.1	102.3	103.9	104.8	108.8	108.7	111.6	113.9	115.7	117.8	119.1	154.3
.200	101.5	102.3	104.0	105.3	109.4	109.5	112.0	113.9	115.1	117.3	118.5	154.2
.250	102.4	102.9	104.1	105.3	109.7	109.9	112.4	113.7	114.8	117.3	118.6	154.2
.315	102.8	103.0	104.4	105.9	110.0	110.4	112.9	113.7	114.9	118.3	118.6	154.6
.400	103.1	102.7	104.1	105.6	110.0	110.6	112.5	113.1	115.0	118.5	117.9	154.5
.500	102.5	102.6	103.9	105.8	110.0	110.7	112.8	113.3	115.9	118.3	116.9	154.6
.630	101.3	102.3	103.8	105.6	110.4	110.7	112.8	113.0	116.3	117.5	114.9	154.4
.800	100.7	102.3	103.8	105.6	110.1	110.8	112.4	113.1	116.4	116.0	113.6	153.9
1.00	102.0	101.9	103.2	105.0	109.4	110.2	111.9	112.2	114.8	113.8	111.4	152.8
1.25	102.6	103.1	103.2	104.8	109.0	109.7	111.0	111.7	113.4	112.7	110.0	152.0
1.60	99.9	101.7	102.9	104.4	107.4	108.2	109.6	110.0	111.3	110.9	107.9	150.4
2.00	97.6	99.7	102.1	103.6	106.7	107.6	108.4	109.2	111.0	110.0	107.0	149.6
2.50	96.0	97.8	99.9	102.2	105.9	106.4	106.8	107.7	109.7	108.5	105.4	148.2
3.15	94.7	97.1	99.0	101.2	105.2	105.6	106.4	107.1	108.8	107.8	104.3	147.5
4.00	93.7	95.0	97.4	99.6	103.9	104.1	105.1	106.0	108.2	107.6	104.1	146.4
5.00	91.8	93.8	96.7	98.4	102.6	103.4	104.4	105.5	108.5	107.8	103.8	146.1
6.30	91.1	93.7	96.2	97.7	102.2	103.6	105.1	106.6	109.6	108.9	105.0	146.7
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 167.2

OASPL 114.1 114.8 116.2 117.6 121.7 122.1 124.1 125.8 129.0 131.4 131.3
 PNL 122.5 123.9 125.6 127.3 131.3 131.8 133.2 134.3 136.6 137.0 135.8

200. SIDELINE

PNL 118.5 120.6 122.8 124.7 128.5 128.5 129.2 129.1 129.7 128.0 123.2

370. SIDELINE

PNL 112.6 114.7 116.9 118.7 122.5 122.5 123.1 123.0 123.5 121.9 117.0

800. SIDELINE

PNL 104.5 106.7 108.9 110.6 114.4 114.3 114.8 114.6 115.0 113.7 108.5

2128. SIDELINE

PNL 92.9 94.6 96.7 98.5 102.3 102.2 103.1 102.8 103.0 101.9 96.4

B3

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 04

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.710	MASS FLOW	LB/S	508.3	568.8	KG/S	230.6	258.0
PRES	30.10IN	1.02BAR	P.R.		1.61	2.41		1.61	2.41	THRUST,IDL	LB	*****	*****			
REL H	25.0Z		TEMP	(R)	1463.0	1278.	(K)	812.8	710.0	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.039	KG/M3	0.494	0.630	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1496.0	1855.7	M/S	456.0	565.6	W (MODEL)	LB/S	3.5	3.9	KG/S	1.6	1.8

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	101.1	100.4	101.2	102.8	103.2	105.3	107.7	113.0	118.9	122.2	122.4	156.3
.063	100.9	101.1	101.7	103.1	104.5	106.2	108.5	113.6	119.6	123.0	121.8	156.9
.080	101.4	101.9	102.6	103.9	105.6	108.1	110.4	114.1	119.5	122.4	121.9	156.8
.100	101.0	102.5	103.6	104.6	105.7	107.7	110.4	113.9	118.3	121.1	121.3	155.9
.125	101.0	101.7	102.8	104.0	105.4	108.1	110.4	113.9	117.0	119.7	120.1	154.9
.160	100.3	101.1	102.6	103.8	105.4	107.8	110.7	113.3	115.5	117.7	118.7	153.7
.200	100.3	101.0	102.5	104.1	105.9	108.5	111.0	113.3	114.8	117.3	118.3	153.5
.250	100.9	101.4	102.6	104.2	106.0	108.7	111.3	113.2	114.5	117.1	118.1	153.5
.315	101.4	101.5	103.1	104.7	106.5	109.3	111.6	113.1	114.3	117.9	118.3	153.8
.400	101.7	101.3	102.6	104.4	106.3	109.2	111.3	112.6	114.1	118.1	117.6	153.6
.500	101.5	101.4	102.5	104.5	106.2	109.3	111.5	112.6	114.7	118.1	117.0	153.7
.630	100.8	101.4	102.5	104.5	106.6	109.1	111.4	112.2	115.1	117.5	116.1	153.5
.800	101.0	101.4	102.4	104.3	106.1	109.1	111.1	111.5	114.3	115.8	114.2	152.5
1.00	104.1	102.6	102.4	103.6	105.6	108.4	110.3	110.5	112.9	113.6	111.9	151.3
1.25	104.6	104.5	103.9	103.7	105.2	107.8	109.4	109.6	111.6	112.5	110.5	150.7
1.60	101.4	103.0	104.2	104.5	103.9	106.2	108.0	107.7	109.3	110.7	108.5	149.1
2.00	98.8	100.7	102.9	104.4	104.0	106.0	107.1	107.0	109.2	109.9	107.9	148.4
2.50	97.6	98.8	100.4	102.7	104.3	105.7	106.1	106.0	108.1	108.7	106.7	147.4
3.15	96.6	98.6	100.3	102.2	103.7	106.0	106.3	106.0	107.6	108.4	106.3	147.3
4.00	96.8	97.5	99.7	101.8	103.1	105.2	106.0	105.8	107.6	109.0	106.8	147.0
5.00	96.1	97.5	100.0	101.6	102.8	105.4	106.0	106.0	108.6	110.0	107.1	147.5
6.30	96.4	98.3	100.5	101.6	103.3	105.8	107.1	107.1	110.0	111.4	108.4	148.4
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL PAGE IS
OF POOR QUALITY

OAPHL = 166.6

OASPL 114.2 114.6 115.7 117.1 118.6 121.1 123.1 125.1 128.4 131.2 130.9
 PHL 123.6 124.7 126.2 127.8 129.1 131.5 132.7 133.4 135.7 137.6 136.2

200. SIDELINE

PHL 119.6 121.4 123.3 125.1 126.3 128.2 128.7 128.2 128.7 128.0 123.4

370. SIDELINE

PHL 113.6 115.4 117.3 119.0 120.3 122.2 122.6 122.0 122.4 122.0 117.2

800. SIDELINE

PHL 105.4 107.3 109.2 110.8 112.0 113.7 114.1 113.5 114.0 113.7 108.6

2128. SIDELINE

PHL 93.1 95.0 96.9 98.3 99.1 101.2 102.1 102.0 102.1 101.7 96.2

B4

20188F Q1364 VCE PRI./FAH NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 05

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	11.89	7.73	SQH	1.105	0.718	MASS FLOW	LB/S	509.8	617.8	KG/S	231.2	280.2
PRES	30.10IN	1.02BAR	P.R.		1.61	2.40		1.61	2.40	THRUST, IOL	LB	*****	*****			
REL H	26.0Z		TEMP	(R)	1451.0	1072.	(K)	806.1	595.6	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.047	KG/M3	0.498	0.756	AREA (MOD)	SQFT	0.08	0.05	SQH	0.008	0.005
			VEL	FPS	1489.8	1695.4	M/S	454.1	516.8	W (MODEL)	LB/S	3.5	4.3	KG/S	1.6	1.9

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

IE-12W

.050	100.7	99.9	100.8	102.3	102.8	105.0	107.3	112.8	118.5	121.8	122.1	
.063	100.5	100.8	101.2	102.7	104.2	105.8	108.0	113.4	119.2	122.4	121.2	
.080	101.0	101.4	102.1	103.6	105.4	107.7	109.8	113.9	119.4	122.0	121.2	
.100	100.7	101.9	103.3	104.1	105.4	107.2	109.9	113.5	118.2	120.5	120.7	
.125	100.3	101.0	102.4	103.3	105.0	107.4	109.9	113.2	116.6	119.0	119.2	
.160	99.4	100.5	102.1	103.1	104.8	107.2	109.9	112.8	115.0	116.5	117.3	
.200	99.4	100.3	101.9	103.4	105.1	107.7	110.2	112.7	114.1	115.6	116.5	
.250	99.9	100.5	101.7	103.3	105.1	107.6	110.2	112.3	113.2	114.7	116.0	
.315	100.5	100.6	102.2	103.5	105.3	108.0	110.5	112.1	112.6	115.1	116.2	
.400	101.0	100.6	101.4	103.2	105.1	107.8	109.9	111.2	111.9	114.8	115.8	
.500	100.7	100.5	101.6	103.4	105.0	107.7	110.1	111.2	111.9	114.8	115.5	
.630	100.3	100.5	101.4	103.2	105.1	107.5	109.6	110.5	111.1	114.6	114.5	
.800	101.0	100.9	101.4	102.9	104.7	107.3	109.3	109.7	110.2	112.9	112.3	
1.00	105.0	103.3	102.2	102.5	104.0	106.6	108.6	108.7	109.1	110.6	110.3	
1.25	105.5	105.5	104.6	103.1	103.7	105.9	107.7	107.8	108.0	109.2	108.7	
1.60	101.9	103.6	105.0	104.6	103.0	104.6	106.4	105.9	105.8	107.2	106.7	
2.00	99.4	101.0	103.1	104.6	103.6	104.6	105.4	105.4	105.5	106.2	105.9	
2.50	98.4	99.4	100.7	102.3	103.9	104.4	104.5	104.2	104.1	104.9	104.9	
3.15	97.2	99.0	100.7	102.0	103.0	105.3	104.9	104.3	103.6	104.5	104.6	
4.00	97.1	97.7	100.3	101.3	102.3	104.0	104.6	103.9	103.3	105.0	105.2	
5.00	96.5	97.7	100.1	101.3	102.2	103.9	104.5	104.2	104.3	106.0	105.5	
6.30	96.8	98.6	100.8	101.8	102.8	104.6	105.5	105.4	105.7	107.3	106.7	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

OAPHL = 165.5

OASPL 114.2 114.5 115.5 116.5 117.7 119.9 121.9 124.2 127.3 129.9 129.9
 PHL 123.9 124.8 126.2 127.3 128.4 130.4 131.4 131.9 132.6 134.5 134.6

200. SIDELINE

PHL 119.8 121.5 123.4 124.6 125.5 127.2 127.3 126.7 125.7 125.2 121.9

370. SIDELINE

PHL 113.8 115.6 117.3 118.6 119.5 121.1 121.2 120.6 119.5 119.2 115.6

800. SIDELINE

PHL 105.7 107.4 109.2 110.5 111.2 112.6 112.7 112.2 111.5 111.0 107.0

2128. SIDELINE

PHL 93.3 95.0 96.9 97.9 98.4 99.9 100.8 100.8 100.2 99.4 94.9

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 07

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	89.0(F)	31.7(C)	AREA	SQFT	11.89	7.73	SQH	1.105	0.718	MASS FLOW	LB/S	495.4	532.8	KG/S	224.7	241.7			
PRES	30.08IN	1.02BAR	P.R.		1.59	2.80		1.59	2.80	THRUST, IOL	LB	*****	*****	H	*****	*****			
REL H	37.0%		TEMP	(R)	1477.0	1995.	(K)	820.6	1108.3	THRUST, NEA	LB	0.0		H	0.0				
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.030	0.026	KG/M3	0.488	0.411	AREA (MOD)	SQFT	0.08	0.05	SQH	0.008	0.005			
			VEL	FPS	1491.7	2497.0	M/S	454.7	761.1	H (MODEL)	LB/S	3.4	3.7	KG/S	1.6	1.7			

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	102.3	102.1	103.2	104.4	106.9	106.8	109.6	115.1	120.8	124.3	125.0	158.5
.063	102.6	103.0	104.0	105.1	108.5	107.8	110.5	115.6	120.6	124.9	124.6	158.7
.080	103.3	103.8	105.0	106.0	110.1	109.7	112.6	116.5	120.5	124.5	124.8	158.8
.100	103.1	105.2	106.0	106.9	110.4	109.7	113.0	116.5	119.4	123.5	124.3	158.2
.125	103.9	104.6	105.7	106.8	110.5	110.3	113.5	116.5	118.7	122.6	123.7	157.7
.160	103.6	104.9	106.1	107.1	111.1	110.4	113.8	116.3	118.0	121.9	123.0	157.3
.200	104.2	105.0	106.2	107.7	111.6	111.4	114.9	116.4	118.3	122.4	123.2	157.8
.250	105.1	105.4	106.5	108.0	112.2	112.0	115.7	116.7	119.1	123.1	123.0	158.3
.315	105.2	105.2	106.7	108.3	112.6	112.7	116.0	117.1	120.5	123.8	122.0	158.8
.400	105.4	105.3	106.5	108.5	113.0	113.1	116.3	117.2	121.5	123.1	120.0	158.8
.500	105.0	105.3	106.5	108.6	113.2	113.6	116.4	118.1	122.1	121.2	118.2	158.6
.630	104.9	105.4	106.7	108.6	113.8	113.9	116.5	118.9	121.5	119.7	116.3	158.3
.800	105.3	106.2	107.0	108.9	113.7	114.2	116.3	118.9	119.9	118.5	114.7	157.6
1.00	105.3	106.5	107.3	108.5	113.4	113.7	115.9	118.1	118.4	116.8	113.3	156.8
1.25	103.7	105.6	107.4	109.0	112.9	113.3	115.2	117.2	117.6	115.8	111.9	156.1
1.60	101.9	103.4	105.7	108.7	111.8	111.8	113.7	115.4	115.7	114.4	110.1	154.6
2.00	100.9	102.8	104.8	107.1	111.0	111.3	112.8	115.0	115.5	113.6	109.5	153.9
2.50	99.5	101.5	103.7	106.0	110.1	110.3	111.6	113.8	114.6	112.3	108.0	152.8
3.15	98.3	100.6	102.9	105.4	109.4	109.9	111.4	113.7	114.3	111.8	107.6	152.4
4.00	97.2	98.9	101.5	104.0	108.1	108.4	110.5	113.3	113.7	112.1	107.1	151.7
5.00	95.5	97.5	101.1	103.0	107.3	108.1	110.1	113.4	114.5	112.5	107.1	151.8
6.30	95.0	97.2	101.6	102.3	107.3	109.9	111.3	114.9	116.1	114.1	108.2	153.0
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPNL = 170.4

OASPL 116.6 117.5 118.9 120.6 124.8 124.9 127.5 129.8 132.4 134.4 134.0
 PHL 125.5 127.0 128.9 131.0 135.1 135.4 137.5 139.9 141.3 141.0 138.6

200. SIDELINE

PHL 121.5 123.7 126.1 128.3 132.2 132.1 133.4 134.6 134.3 131.9 126.0

370. SIDELINE

PHL 115.5 117.7 120.1 122.3 126.2 126.1 127.3 128.4 128.0 125.8 119.8

800. SIDELINE

PHL 107.2 109.5 111.9 114.0 118.0 117.7 118.8 119.7 119.6 117.6 111.5

2128. SIDELINE

PHL 95.6 97.3 99.6 101.9 105.6 105.1 106.8 107.3 107.6 105.8 99.7

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 08

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	88.0(F)	31.1(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	509.8	499.7	KG/S	231.2	226.7			
PRES	30.08IN	1.02BAR	P.R.		1.60	2.61		1.60	2.61	THRUST, IOL	LB	*****	*****	N	*****	*****			
REL H	37.0%		TEMP	(R)	1476.0	2001.	(K)	820.0	1111.7	THRUST, MEA	LB		0.0	N		0.0			
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.489	0.403	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1495.0	2424.0	M/S	455.7	730.8	W (MODEL)	LB/S	3.5	3.5	KG/S	1.6	1.6			

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES												POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160		
.050	101.8	101.6	102.6	103.9	106.5	106.3	109.2	114.4	120.0	123.5	124.2	157.7	
.063	102.1	102.5	103.6	104.6	108.0	107.4	110.1	114.8	120.0	124.3	123.8	158.1	
.080	102.7	103.3	104.4	105.3	109.4	109.4	112.1	115.7	119.9	123.7	123.9	158.1	
.100	102.6	104.5	105.4	106.3	110.0	109.3	112.6	115.8	118.7	122.4	123.4	157.4	
.125	103.1	103.9	105.0	106.2	109.9	109.9	112.9	115.7	118.0	121.6	122.6	156.9	
.160	102.7	103.9	105.6	106.4	110.4	110.0	113.1	115.4	116.9	120.6	121.8	156.3	
.200	103.4	104.3	105.6	107.1	111.1	110.8	114.0	115.6	117.1	120.9	121.8	156.6	
.250	104.2	104.7	105.6	107.3	111.5	111.3	114.7	115.7	117.6	121.6	121.7	157.1	
.315	104.5	104.7	106.1	107.5	112.0	112.1	115.1	116.0	118.9	122.4	121.4	157.7	
.400	104.8	104.4	105.8	107.9	112.2	112.4	115.5	116.0	119.7	122.3	119.6	157.7	
.500	104.4	104.4	105.9	107.9	112.3	112.8	115.6	116.6	120.9	121.0	117.9	157.7	
.630	103.4	104.2	106.0	107.9	112.9	113.1	115.5	117.1	120.7	119.2	116.1	157.4	
.800	103.5	104.5	105.8	107.8	112.8	113.4	115.2	117.4	119.3	118.1	114.6	156.7	
1.00	104.7	105.0	105.7	107.4	112.4	112.8	114.9	116.9	117.7	116.4	113.0	155.9	
1.25	103.3	105.1	106.3	107.5	111.9	112.4	114.3	116.2	116.6	115.3	111.6	155.2	
1.60	100.8	102.6	105.0	107.3	110.5	111.1	112.8	114.3	114.0	113.7	109.7	153.6	
2.00	99.9	101.4	103.8	106.3	110.0	110.4	111.8	113.8	114.5	112.8	108.9	152.9	
2.50	98.8	100.5	102.4	104.8	109.7	109.4	110.6	112.6	113.6	111.4	107.4	151.8	
3.15	97.0	99.5	101.7	104.0	108.2	108.7	110.3	112.1	113.1	110.7	106.4	151.2	
4.00	96.2	97.6	100.2	102.8	106.9	107.2	109.5	111.6	112.7	110.9	106.3	150.5	
5.00	94.2	96.2	99.7	101.6	105.9	107.0	108.9	111.5	113.2	111.4	106.0	150.4	
6.30	93.7	95.8	99.8	100.7	105.8	107.5	109.9	113.0	114.6	112.8	107.0	151.5	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

OAPWL = 169.5

OASPL 115.8 116.6 118.0 119.7 123.9 124.1 126.6 128.7 131.4 133.5 133.1
 PHL 124.6 125.9 127.9 129.8 134.2 134.5 136.5 138.5 140.2 140.1 137.9

200. SIDELINE

PHL 120.6 122.7 125.0 127.1 131.4 131.2 132.5 133.2 133.2 131.0 125.3

370. SIDELINE

PHL 114.6 116.7 119.0 121.2 125.5 125.1 126.4 127.0 126.9 125.0 119.1

800. SIDELINE

PHL 106.3 108.5 110.9 113.0 117.3 116.8 117.9 118.4 118.5 116.7 110.7

2128. SIDELINE

PHL 94.7 96.4 98.7 100.9 104.7 104.3 105.9 106.0 106.5 104.8 98.7

20188F Q1364 VCE PRI./FAH NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN# NUMBER 2018 CONDITION 09

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	504.0	663.8	KG/S	228.6	301.1
PRES	30.10IN	1.02BAR	P.R.		1.60	2.81		1.60	2.81	THRUST,IDL	LB	*****	*****			
REL H	25.0Z		TEMP	(R)	1468.0	1283.	(K)	815.6	712.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.041	KG/M3	0.492	0.653	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1493.6	1995.8	M/S	455.2	608.3	W (MODEL)	LB/S	3.5	4.6	KG/S	1.6	2.1

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)	60	70	80	90	100	110	120	130	140	150	160	
.050	101.7	101.4	102.2	104.0	104.7	106.6	108.8	114.0	120.1	123.3	124.1	157.6
.063	102.0	102.1	102.8	104.4	105.7	107.4	109.5	114.5	120.7	124.4	123.7	158.2
.080	102.2	103.2	103.7	105.4	107.1	109.6	111.6	115.1	121.1	124.4	124.3	158.6
.100	102.0	103.5	104.6	105.7	107.0	109.0	111.7	115.0	119.8	122.9	123.4	157.5
.125	102.0	102.7	104.1	105.1	106.8	109.2	111.7	115.2	118.6	122.1	122.6	156.9
.160	101.7	102.7	104.3	105.1	106.9	109.4	112.2	115.2	117.7	121.4	122.1	156.4
.200	102.3	102.8	104.3	105.7	107.4	110.0	112.9	115.5	117.6	121.7	121.9	156.6
.250	103.1	103.4	104.4	106.0	107.8	110.5	113.2	115.5	118.0	122.1	121.8	156.9
.315	103.5	103.6	104.8	106.6	108.0	111.1	113.8	115.7	118.8	122.5	121.5	157.3
.400	104.6	103.9	104.7	106.4	108.4	111.4	113.5	115.2	120.5	123.5	122.1	158.1
.500	105.6	104.2	104.8	106.5	108.2	111.1	113.9	115.4	120.1	121.3	119.3	157.0
.630	108.7	107.2	105.6	106.5	108.6	111.1	113.7	115.0	119.9	119.7	117.6	156.5
.800	108.4	109.0	108.2	107.2	108.3	111.0	113.3	114.4	118.3	118.5	115.8	155.6
1.00	108.4	109.2	109.4	108.4	108.2	110.5	112.9	113.5	117.0	116.9	114.1	154.9
1.25	106.1	107.7	109.3	109.5	108.9	110.2	111.9	112.9	115.7	115.8	112.8	154.1
1.60	104.4	105.1	106.7	109.1	108.7	109.6	110.8	111.1	113.8	114.2	111.2	152.7
2.00	103.9	105.2	106.2	107.2	108.2	110.3	110.4	110.7	113.8	113.7	110.6	152.3
2.50	102.5	104.2	105.6	106.7	107.7	110.2	109.8	109.7	113.1	112.6	109.5	151.6
3.15	102.0	103.8	105.4	107.0	107.7	110.0	110.2	109.9	112.9	112.6	109.2	151.6
4.00	102.2	103.1	105.1	106.6	107.6	109.3	109.9	110.1	113.3	113.5	110.0	151.7
5.00	101.5	103.0	105.2	106.6	107.3	109.4	109.9	110.4	114.0	114.7	110.1	152.1
6.30	101.6	103.7	105.9	106.9	108.0	110.3	111.3	111.8	115.7	116.0	111.5	153.3
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

POWER
1E-12W

OAPWL = 169.4

OASPL	117.8	118.3	119.2	120.1	121.1	123.4	125.4	127.3	131.5	134.0	133.5
PHL	128.0	129.1	130.4	131.7	132.5	134.8	135.8	136.7	140.3	141.4	139.4

200. SIDELINE

PHL	123.9	125.8	127.5	128.9	129.7	131.5	131.8	131.4	133.2	132.1	126.7
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370. SIDELINE

PHL	117.8	119.7	121.4	122.9	123.6	125.4	125.6	125.2	126.9	126.0	120.4
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800. SIDELINE

PHL	109.3	111.2	112.9	114.4	115.1	116.8	117.0	116.5	118.5	117.7	111.8
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2128. SIDELINE

PHL	97.1	98.5	100.0	101.7	102.2	103.7	104.5	104.6	106.6	105.6	99.4
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20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 10

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	514.1	538.6	KG/S	233.2	244.3
PRES	30.10IN	1.02BAR	P.R.		1.60	2.59		1.60	2.59	THRUST, IDL	LB	*****	*****			
REL H	39.0Z		TEMP	(R)	1459.0	1686.	(K)	810.6	936.7	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.495	0.481	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1487.4	2215.0	M/S	453.4	675.1	W (MODEL)	LB/S	3.6	3.7	KG/S	1.6	1.7

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

MICROPHONE ANGLES IN DEGREES

(KHZ)	60	70	80	90	100	110	120	130	140	150	160
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POWER

1E-12W

.050	101.5	101.1	102.2	103.9	106.3	106.5	109.0	114.1	119.8	123.2	123.9	
.063	101.8	102.1	103.0	104.2	107.7	107.4	109.6	114.4	119.9	123.7	123.1	
.080	102.2	102.8	103.8	104.9	109.0	109.1	111.4	114.9	119.9	123.1	123.1	
.100	101.9	103.6	104.8	105.5	109.2	108.8	111.8	114.9	118.6	121.7	122.4	
.125	102.4	102.9	104.4	105.4	109.2	109.3	111.9	115.0	117.4	120.2	121.4	
.160	102.0	103.0	104.6	105.6	109.6	109.5	112.3	114.5	116.3	118.8	120.3	
.200	102.4	103.2	104.7	106.2	110.2	110.2	112.9	114.7	115.9	118.6	119.9	
.250	103.2	103.7	104.8	106.3	110.6	110.6	113.2	114.5	116.0	118.9	120.1	
.315	103.8	103.7	105.2	106.8	111.0	111.1	113.8	114.8	116.6	120.0	120.0	
.400	103.9	103.4	104.8	106.5	110.9	111.4	113.5	114.3	117.1	120.2	119.0	
.500	103.5	103.4	104.7	106.7	110.8	111.5	113.9	114.8	118.2	119.9	117.7	
.630	103.0	103.4	104.7	106.7	111.4	111.5	113.8	114.7	118.5	118.2	115.7	
.800	103.9	103.9	104.8	106.8	111.1	111.8	113.7	114.6	117.8	116.7	114.1	
1.00	105.9	105.3	105.2	106.2	110.6	111.3	113.2	113.9	116.4	114.9	112.3	
1.25	104.3	105.7	106.4	106.6	110.3	110.8	112.3	113.6	114.9	113.9	111.0	
1.60	101.4	102.8	105.1	106.8	109.1	109.4	111.1	112.0	112.9	112.2	108.8	
2.00	100.3	101.4	103.6	105.7	108.5	109.0	110.1	111.2	112.7	111.4	107.9	
2.50	99.0	100.5	102.1	103.8	107.8	108.0	108.5	109.7	111.5	109.8	106.4	
3.15	97.1	99.4	101.4	103.3	106.9	107.3	108.3	109.3	110.9	109.3	105.5	
4.00	96.2	97.3	99.9	101.9	105.8	105.8	107.1	108.3	110.5	109.2	105.5	
5.00	94.0	96.0	99.0	100.8	104.6	105.2	106.5	108.1	110.8	109.6	104.9	
6.30	93.5	95.7	98.6	99.9	104.3	105.4	107.4	109.4	111.9	110.8	106.2	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

OAPHL = 168.2

OASPL	115.6	116.1	117.4	118.8	122.7	123.0	125.2	126.9	130.1	132.2	132.1	
PHL	124.6	125.7	127.4	129.0	132.8	133.1	134.7	136.1	138.3	138.4	136.8	

200. SIDELINE

PHL	120.6	122.4	124.5	126.3	129.9	129.9	130.7	130.8	131.4	129.3	124.2	
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370. SIDELINE

PHL	114.6	116.4	118.5	120.3	124.0	123.8	124.6	124.7	125.1	123.3	118.0	
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800. SIDELINE

PHL	106.3	108.2	110.4	112.2	115.8	115.6	116.2	116.2	116.6	115.0	109.6	
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2128. SIDELINE

PHL	94.3	96.1	98.3	100.1	103.5	103.2	104.2	104.1	104.7	103.1	97.5	
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B10

20128F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 11

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	509.8	460.8	KG/S	231.2	209.0
PRES	30.10IN	1.02BAR	P.R.		1.60	2.22		1.60	2.22	THRUST,IDL	LB	*****	*****			
REL H	25.0Z		TEMP	(R)	1459.0	1675.	(K)	810.6	930.6	THRUST,MEA	LB		0.0	H		0.0
SOSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.495	0.466	AREA (MCD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1489.6	2039.2	M/S	454.0	621.6	W (MSDEL)	LB/S	3.5	3.2	KG/S	1.6	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	101.0	100.0	100.7	102.4	103.1	105.2	108.0	113.1	118.7	121.8	122.0	156.1
.063	100.4	101.0	101.8	102.9	104.2	105.9	108.4	113.5	118.9	122.4	121.5	156.4
.080	101.0	101.6	102.5	103.6	105.6	107.8	110.4	114.0	119.0	122.0	121.4	156.4
.100	100.6	102.6	103.4	104.3	105.6	107.6	110.7	113.7	117.9	120.7	120.9	155.6
.125	100.9	101.4	102.8	103.9	105.7	108.0	110.6	113.5	116.5	119.5	119.9	154.7
.160	99.9	101.1	102.8	103.8	105.6	108.0	110.9	113.2	114.9	117.8	118.7	153.7
.200	100.4	101.2	102.8	104.4	106.3	108.7	111.5	113.2	114.6	117.8	118.4	153.7
.250	101.2	101.7	102.9	104.5	106.5	109.1	111.8	113.2	114.6	117.9	118.1	153.8
.315	101.6	101.7	103.3	105.0	107.0	109.7	112.4	113.3	114.9	118.6	118.1	154.3
.400	101.9	101.5	103.0	104.8	106.9	109.8	112.0	112.8	115.3	118.5	117.1	154.1
.500	101.5	101.6	103.0	104.9	107.1	110.0	112.4	113.2	116.5	118.0	115.7	154.2
.630	100.2	101.2	102.8	104.9	107.5	110.1	112.3	112.9	116.6	116.6	113.9	153.8
.800	99.0	100.9	102.7	104.8	107.1	110.1	111.9	112.5	116.0	115.1	112.3	153.1
1.00	98.9	99.9	102.1	104.0	106.4	109.5	111.5	111.7	114.3	113.0	110.3	151.9
1.25	98.2	99.4	101.2	103.4	106.1	108.8	110.4	111.1	112.8	111.9	109.0	151.0
1.60	96.8	97.9	100.1	102.7	104.5	107.3	109.1	109.3	110.7	110.2	107.0	149.3
2.00	95.4	97.3	99.6	101.6	103.5	106.6	107.9	108.5	110.6	109.4	106.3	148.6
2.50	94.1	96.2	98.5	100.7	102.9	105.6	106.6	107.3	109.6	108.2	105.0	147.5
3.15	93.5	95.7	98.2	100.6	102.7	105.4	106.6	107.2	109.1	107.8	104.5	147.2
4.00	93.7	94.9	97.7	100.0	102.4	104.8	106.1	107.1	109.3	108.4	104.9	147.1
5.00	93.4	95.0	98.1	100.1	102.0	105.0	106.2	107.3	110.2	109.3	105.1	147.6
6.30	94.0	96.1	98.5	100.0	102.5	105.5	107.3	108.7	111.4	110.5	106.3	148.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 166.6

OASPL 112.8 113.6 115.1 116.8 118.8 121.5 123.7 125.4 128.7 131.0 130.4
 PNL 121.2 122.6 124.7 126.7 128.8 131.5 133.2 134.3 136.8 137.1 135.2

200. SIDELINE

PNL 117.2 119.3 121.9 124.0 126.0 128.2 129.2 129.0 129.8 127.9 122.6

370. SIDELINE

PNL 111.1 113.3 115.9 118.0 120.0 122.2 123.1 122.9 123.5 121.8 116.4

600. SIDELINE

PNL 103.0 105.0 107.5 109.7 111.6 113.8 114.6 114.3 115.0 113.6 107.9

2128. SIDELINE

PNL 91.5 93.2 95.5 97.5 99.4 101.6 102.7 102.4 103.1 101.7 95.7

B11

2018BF Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 12

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	514.1	383.0	KG/S	233.2	173.7
PRES	30.10IN	1.02BAR	P.R.		1.60	2.01		1.60	2.01	THRUST,IDL	LB	*****895472.4		*****		
REL H	38.0Z		TEMP	(R)	1468.0	1988.	(K)	815.6	1104.4	THRUST,MEA	LB	0.0		N	0.0	
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.024	KG/M3	0.492	0.381	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1491.1	2091.0	M/S	454.5	637.3	W (MODEL)	LB/S	3.6	2.7	KG/S	1.6	1.2

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ) 60 70 80 90 100 110 120 130 140 150 160

POWER

1E-12W

.050	100.1	99.4	100.9	102.1	104.5	104.9	107.5	112.5	118.0	121.2	121.8	
.063	100.1	100.6	101.7	102.5	105.9	105.7	108.1	112.8	118.3	121.7	120.9	
.080	100.5	101.3	102.5	103.2	107.3	107.4	110.0	113.3	118.3	121.3	121.0	
.100	100.4	102.2	103.4	104.0	107.6	107.3	110.3	113.1	116.7	119.9	120.3	
.125	100.8	101.3	102.9	103.8	107.6	107.7	110.2	113.0	115.5	118.1	118.9	
.160	99.6	101.0	103.0	103.8	107.7	107.7	110.5	112.5	113.9	115.8	116.9	
.200	100.2	101.2	103.1	104.3	108.5	108.4	111.1	112.4	113.3	114.9	115.7	
.250	100.9	101.6	103.2	104.5	108.9	108.8	111.2	112.3	112.9	114.5	115.1	
.315	101.5	101.9	103.8	105.1	109.3	109.6	111.8	112.4	112.9	115.1	115.2	
.400	102.3	101.7	103.4	104.9	109.5	109.9	111.6	112.0	112.9	115.3	114.6	
.500	102.3	102.0	103.6	105.2	109.6	110.0	111.9	112.4	114.0	115.8	114.6	
.630	100.8	102.0	103.6	105.3	110.2	110.3	111.9	112.4	114.7	116.2	114.1	
.800	99.7	101.9	103.6	105.3	110.0	110.6	111.7	112.0	114.9	115.4	113.0	
1.00	99.8	101.0	103.1	104.7	109.4	110.0	111.2	111.0	113.5	112.7	110.5	
1.25	98.8	100.4	102.4	104.2	108.9	109.4	110.3	110.5	111.9	111.3	109.0	
1.60	97.0	98.9	101.0	103.5	107.2	107.8	109.8	108.8	109.8	109.7	107.1	
2.00	96.1	98.0	100.4	102.6	106.4	107.2	108.0	108.1	109.5	108.8	106.2	
2.50	94.2	96.4	99.0	100.9	105.4	106.0	106.2	106.5	108.0	107.2	104.5	
3.15	92.9	95.4	98.0	100.2	104.4	105.0	105.7	105.7	107.1	106.4	103.4	
4.00	92.1	93.6	96.6	98.8	103.0	103.4	104.3	104.7	106.4	106.0	102.8	
5.00	90.4	92.2	95.7	97.4	101.9	102.6	103.4	104.0	106.2	106.0	102.0	
6.30	90.0	92.5	95.8	96.8	101.5	102.9	104.2	105.0	107.3	106.9	103.1	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

OAPHL = 165.9

OASPL 112.8 113.7 115.4 116.9 121.1 121.4 123.2 124.6 127.4 129.7 129.4
 PHL 120.9 122.4 124.7 126.5 130.7 131.2 132.4 133.0 134.9 135.4 133.7

200. SIDELINE

PHL 116.9 119.2 121.9 123.8 127.9 127.9 128.4 127.8 128.0 126.1 121.0

370. SIDELINE

PHL 111.0 113.2 115.9 117.8 122.0 122.0 122.3 121.7 121.8 120.0 114.8

800. SIDELINE

PHL 103.0 105.1 107.8 109.7 113.8 113.7 114.1 113.4 113.3 111.7 106.3

2128. SIDELINE

PHL 91.6 93.3 95.8 97.6 101.8 101.6 102.2 101.6 101.3 99.6 94.5

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.249

STAND X266 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 13

PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	512.6	469.4	KG/S	232.5	212.9
PRES	30.10IN	1.02BAR	P.R.		1.61	2.01		1.61	2.01	THRUST,IDL	LB	*****882945.0		*****		
REL H	26.0Z		TEMP	(R)	1476.0	1291.	(K)	820.0	717.2	THRUST,MEA	LB	0.0	0.0	H	0.0	0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.037	KG/M3	0.490	0.595	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1507.3	1682.3	M/S	459.4	512.8	W (MODEL)	LB/S	3.6	3.3	KG/S	1.6	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	99.9	98.9	99.6	101.5	102.1	104.2	106.6	112.1	117.8	121.0	120.9	155.1
.063	99.4	100.0	100.5	101.9	103.5	104.9	107.1	112.8	118.6	121.6	120.2	155.6
.080	100.2	100.7	101.2	102.6	104.5	106.9	109.2	113.1	119.0	121.3	120.4	155.8
.100	99.7	101.3	102.5	103.2	104.6	106.4	109.2	112.8	117.7	119.9	119.8	154.8
.125	99.7	100.1	101.2	102.5	104.2	106.6	109.0	112.2	116.0	118.2	118.0	153.5
.160	98.2	99.4	101.0	102.1	103.9	106.3	108.8	111.7	113.9	115.1	115.4	151.7
.200	97.8	99.0	100.6	102.3	103.9	106.4	108.9	111.4	112.7	113.3	113.3	150.8
.250	98.0	99.0	100.4	102.0	104.0	106.4	108.8	110.8	111.3	111.6	111.6	149.9
.315	98.5	99.0	100.6	102.2	104.1	106.7	109.0	110.5	110.2	110.5	110.6	149.5
.400	99.0	98.5	100.0	101.8	103.6	106.4	108.2	109.2	109.0	109.6	109.5	148.7
.500	98.6	98.6	100.2	102.0	103.6	106.2	108.2	108.9	108.4	109.2	109.0	148.4
.630	97.5	98.4	99.9	101.7	104.0	105.9	107.9	108.1	107.7	109.0	108.3	148.0
.800	97.0	98.6	99.8	101.8	103.8	106.2	107.5	107.5	107.3	108.5	107.9	147.7
1.00	98.3	98.8	100.0	101.4	103.6	106.1	107.3	106.6	106.6	107.6	107.4	147.3
1.25	96.9	97.9	99.0	101.0	102.8	105.2	106.4	105.9	105.4	105.8	105.2	146.3
1.60	95.0	96.1	97.8	100.2	101.3	103.5	105.2	104.3	103.5	103.8	102.9	144.8
2.00	94.1	95.6	97.3	99.3	100.5	103.1	104.1	104.0	103.5	102.9	102.0	144.1
2.50	93.1	94.6	96.3	98.2	100.1	102.2	102.8	102.6	102.2	101.7	100.5	143.0
3.15	92.5	94.5	96.4	98.5	99.8	102.2	102.9	102.6	101.6	101.1	99.7	142.8
4.00	92.9	93.8	96.2	98.1	99.5	101.4	102.4	102.1	101.3	101.6	100.1	142.5
5.00	93.4	94.4	97.1	98.6	99.6	101.7	102.4	102.4	102.1	103.2	100.5	143.0
6.30	95.1	96.6	98.7	99.7	101.0	102.7	103.6	103.5	103.4	105.2	101.9	144.3
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 164.1

OASPL 111.1 111.8 113.1 114.7 116.4 118.7 120.6 122.9 126.3 128.5 128.0
 PHL 120.0 121.2 122.9 124.6 126.1 128.4 129.7 130.3 130.7 131.8 131.0

200. SIDELINE

PHL 115.9 117.8 120.0 121.9 123.3 125.1 125.7 125.1 123.8 122.6 118.4

370. SIDELINE

PHL 109.7 111.8 114.0 115.9 117.3 119.1 119.6 119.0 117.8 116.6 112.2

800. SIDELINE

PHL 101.3 103.3 105.5 107.5 108.9 110.7 111.1 110.5 109.9 108.6 104.0

2128. SIDELINE

PHL 89.4 91.0 93.1 95.1 96.6 98.5 99.3 99.1 98.8 97.4 92.4

B13

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 14

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	92.0(F)	33.3(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	439.2	450.7	KG/S	199.2	204.4
PRES	30.08IN	1.02BAR	P.R.		1.60	2.39		1.60	2.39	THRUST,IDL	LB	*****	*****			
REL H	29.0Z		TEMP	(R)	2006.0	2005.	(K)	1114.4	1113.9	THRUST,MEA	LB		0.0	H		0.0
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.022	0.025	KG/M3	0.357	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1746.3	2326.3	M/S	532.3	709.0	W (MODEL)	LB/S	3.1	3.1	KG/S	1.4	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	102.4	102.0	102.5	104.4	107.1	106.8	110.3	116.5	122.3	124.8	124.0	
.063	102.9	103.5	103.8	105.7	108.8	108.2	111.6	117.5	123.3	125.6	123.8	
.080	103.6	104.5	104.6	106.5	110.6	110.4	113.4	118.5	124.3	125.8	124.6	
.100	104.1	106.2	106.1	107.4	111.3	110.5	113.8	117.9	123.7	125.9	124.8	
.125	104.6	105.2	105.5	107.2	111.0	110.7	114.1	117.4	122.4	125.3	124.3	
.160	103.7	104.9	105.5	107.2	111.1	110.5	113.9	116.8	120.7	123.9	123.2	
.200	103.9	104.8	105.4	107.4	111.6	111.1	114.5	116.5	119.9	123.2	122.4	
.250	104.4	105.0	105.3	107.6	111.7	111.5	114.6	116.3	119.3	122.5	121.7	
.315	104.5	104.6	105.5	107.5	112.0	111.8	114.6	116.0	119.4	122.4	120.6	
.400	104.6	104.3	105.2	107.8	111.9	111.9	114.5	115.3	119.5	121.7	119.0	
.500	103.9	104.2	104.9	107.6	112.0	112.0	114.5	115.6	119.9	120.5	117.6	
.630	102.9	103.9	104.9	107.6	112.4	112.3	114.4	115.8	119.8	119.0	115.7	
.800	101.9	103.9	104.7	107.4	112.1	112.2	114.2	115.9	118.9	117.9	114.2	
1.00	102.9	103.1	104.1	106.8	111.7	111.7	113.8	115.1	117.3	116.0	112.7	
1.25	103.0	103.8	103.8	106.6	111.1	111.1	113.2	114.8	116.0	115.0	111.3	
1.60	100.7	102.2	103.3	106.0	109.4	109.6	111.5	112.9	114.2	113.5	109.5	
2.00	98.5	100.6	102.3	105.2	108.7	108.7	110.6	112.2	113.8	112.8	108.6	
2.50	97.1	99.1	100.5	103.8	107.8	107.8	109.3	111.0	113.0	111.4	107.1	
3.15	95.9	98.2	99.5	103.3	107.3	107.6	109.2	110.8	112.7	111.0	106.6	
4.00	95.5	96.8	98.6	102.4	106.4	106.5	108.6	110.6	112.6	111.5	106.6	
5.00	94.1	96.0	98.1	101.3	105.7	106.3	108.4	110.6	113.4	112.2	106.9	
6.30	94.5	96.7	98.0	101.2	106.1	107.4	109.8	112.8	115.6	114.2	108.7	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

OAPHL = 170.4

OASPL 115.8 116.7 117.3 119.7 123.8 123.7 126.3 128.9 133.2 135.0 133.6
 PHL 123.9 125.4 126.4 129.4 133.5 133.7 135.8 137.8 140.8 140.8 137.9

200. SIDELINE

PHL 119.9 122.1 123.6 126.8 130.7 130.4 131.7 132.5 133.6 131.4 125.2

370. SIDELINE

PHL 114.0 116.2 117.7 120.8 124.7 124.3 125.6 126.4 127.3 125.4 119.1

800. SIDELINE

PHL 105.9 108.1 109.7 112.6 116.5 115.9 117.2 117.8 118.9 117.2 110.7

2128. SIDELINE

PHL 94.6 96.3 97.7 100.5 104.5 103.8 105.3 105.6 107.1 105.4 98.9

B14

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 15

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	92.0(F)	33.3(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	481.0	456.5	KG/S	218.2	207.1
PRES	30.08IN	1.02BAR	P.R.		1.60	2.40		1.60	2.40	THRUST,IDL	LB	*****	*****			
REL H	28.0Z		TEMP	(R)	1691.0	2003.	(K)	939.4	1112.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.027	0.025	KG/M3	0.426	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1606.0	2328.9	M/S	489.5	709.9	W (MODEL)	LB/S	3.3	3.2	KG/S	1.5	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ) 60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	101.8	101.3	101.8	103.7	106.3	106.0	109.4	114.8	120.5	123.7	123.6	157.8
.063	102.3	102.9	102.9	104.6	108.0	107.1	110.5	115.4	121.1	124.5	123.5	158.5
.080	103.1	103.7	103.9	105.5	109.5	109.4	112.3	116.0	121.6	124.6	123.8	158.9
.100	103.0	105.0	105.0	106.4	110.1	109.3	112.6	115.7	120.3	123.8	123.7	156.3
.125	103.4	104.1	104.5	106.3	109.9	109.4	112.7	115.5	119.1	122.8	122.8	157.5
.160	102.8	103.8	104.6	106.3	110.2	109.5	113.0	115.0	117.7	121.2	121.7	156.5
.200	103.1	104.0	104.7	106.8	110.6	110.2	113.5	114.9	117.1	120.7	121.2	156.2
.250	103.8	104.2	104.6	106.9	110.9	110.6	113.8	114.9	117.0	120.5	120.8	156.2
.315	104.0	104.2	104.9	107.1	111.3	111.1	113.9	114.8	117.5	120.9	120.2	156.4
.400	104.2	104.0	104.7	107.2	111.6	111.3	114.1	114.4	118.1	121.0	119.0	156.5
.500	103.7	103.9	104.5	107.1	111.5	111.6	114.3	114.7	119.1	120.0	117.2	156.4
.630	102.7	103.8	104.6	107.2	112.1	111.8	114.2	115.3	119.4	118.6	115.5	156.2
.800	101.7	103.7	104.4	107.3	111.8	111.9	114.1	115.4	118.6	117.3	114.0	155.6
1.00	102.7	103.0	104.1	106.5	111.5	111.4	113.6	115.0	116.7	115.4	112.2	154.6
1.25	102.9	103.7	103.8	106.3	110.9	110.9	113.0	114.5	115.6	114.2	110.8	153.7
1.60	100.5	102.1	103.3	105.9	109.3	109.5	111.6	112.7	113.7	112.7	109.0	152.3
2.00	98.3	100.6	102.4	105.1	108.7	108.7	110.6	112.1	113.4	111.7	108.0	151.6
2.50	97.0	98.9	100.7	103.8	107.9	107.7	109.4	110.8	112.6	110.5	106.4	150.5
3.15	95.9	98.3	99.7	103.2	107.5	107.5	109.1	110.6	112.1	110.1	105.9	150.1
4.00	95.3	96.9	98.8	102.3	106.6	106.5	108.6	110.2	111.9	110.4	105.9	149.6
5.00	93.9	96.0	98.3	101.3	105.7	106.4	108.3	110.2	112.5	110.9	105.8	149.7
6.30	94.1	96.5	98.2	101.1	106.0	107.5	109.8	112.2	114.6	112.7	107.3	151.3
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 169.1

OASPL 115.3 116.2 116.8 119.2 123.3 123.1 125.8 127.7 131.2 133.5 132.7
 PHL 123.6 125.2 126.3 129.2 133.4 133.4 135.5 137.1 139.6 139.4 137.2

200. SIDELINE

PHL 119.6 121.9 123.5 126.5 130.5 130.1 131.5 131.9 132.5 130.3 124.6

370. SIDELINE

PHL 113.7 115.9 117.6 120.5 124.5 124.0 125.4 125.7 126.2 124.3 118.4

800. SIDELINE

PHL 105.6 107.8 109.5 112.3 116.3 115.6 116.9 117.1 117.7 116.0 110.0

2128. SIDELINE

PHL 94.1 95.9 97.3 100.0 104.1 103.3 104.9 104.6 105.7 104.2 98.1

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 16

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	594.7	466.6	KG/S	269.8	211.6
PRES	30.08IN	1.02BAR	P.R.		1.59	2.40		1.59	2.40	THRUST,IDL	LB	*****	*****			
REL H	32.0Z		TEMP	(R)	1066.0	2003.	(K)	592.2	1112.8	THRUST,MEA	LB	0.0	0.0	N	0.0	0.0
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.042	0.025	KG/M3	0.681	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1263.6	2329.9	M/S	385.2	710.2	W (MODEL)	LB/S	4.1	3.2	KG/S	1.9	1.5

FAA DAY
BAND

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	99.3	99.1	1.6	101.1	103.8	103.3	106.2	110.2	114.8	118.4	120.3	153.1
.063	99.1	99.5	1.6	101.7	105.0	104.2	106.9	111.0	114.5	118.0	118.7	152.7
.080	98.8	99.9	1.6	102.2	105.9	105.5	108.6	111.9	114.4	115.8	117.0	152.1
.100	98.7	100.6	1.6	102.6	106.4	105.8	109.3	112.1	113.6	114.0	114.8	151.5
.125	99.1	100.6	1.6	103.0	107.0	106.4	110.1	112.5	113.3	113.2	113.7	151.4
.160	99.3	101.0	1.6	103.5	107.7	107.0	110.7	112.6	112.5	112.5	113.4	151.4
.200	100.5	101.9	1.6	104.7	108.6	108.1	112.2	113.0	112.9	113.4	114.6	152.3
.250	101.7	102.6	1.6	105.4	109.2	109.0	113.2	113.2	113.3	115.0	116.2	153.1
.315	102.9	103.2	1.6	105.8	110.0	109.9	113.8	113.9	114.6	117.3	117.7	154.3
.400	103.5	103.2	1.6	106.2	110.6	110.4	114.1	114.2	115.8	118.9	117.9	155.1
.500	103.3	103.3	1.6	106.4	110.6	110.9	114.4	114.7	117.6	119.4	117.2	155.7
.630	101.8	103.1	1.6	106.4	111.4	111.3	114.3	115.3	110.6	118.5	115.1	155.8
.800	101.2	103.2	1.7	106.5	111.4	111.6	114.0	115.1	118.6	116.7	113.3	155.3
1.00	102.6	102.7	1.7	106.0	111.0	111.1	113.4	114.3	116.7	114.7	111.5	154.2
1.25	103.0	103.6	1.8	106.0	110.4	110.7	112.7	113.9	115.3	113.7	110.2	153.4
1.60	100.1	102.1	2.0	105.6	109.0	109.2	111.2	112.4	113.6	111.9	103.3	151.9
2.00	98.1	100.5	2.3	104.8	108.3	108.6	110.5	111.8	113.1	111.1	107.3	151.2
2.50	96.6	98.6	2.8	103.6	107.7	107.6	109.2	110.5	112.1	109.8	105.9	150.0
3.15	95.2	98.0	3.6	102.8	107.1	107.3	109.0	110.0	111.7	109.2	105.1	149.6
4.00	94.6	96.2	4.7	101.7	105.9	106.0	108.2	109.6	111.2	109.3	104.7	148.9
5.00	93.1	95.2	6.4	100.7	105.0	105.9	107.8	109.5	111.8	109.6	104.3	148.9
6.30	93.2	95.7	9.2	100.4	105.3	106.8	109.2	111.3	113.5	111.1	105.4	150.2
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 166.3

OASPL 113.7 114.7 18.3 117.8 122.1 122.1 125.0 126.2 128.2 128.8 128.2
 PNL 122.7 124.4 28.0 128.4 132.6 132.7 135.1 136.3 138.0 137.0 134.8

200. SIDELINE

PNL 118.7 121.1 13.6 125.7 129.7 129.4 131.0 131.0 131.1 127.7 122.1

370. SIDELINE

PNL 112.7 115.1 6.8 119.7 123.7 123.4 124.9 124.8 124.7 121.6 115.8

800. SIDELINE

PNL 104.5 107.0 0.0 111.4 115.4 114.9 116.4 116.2 115.9 113.1 107.2

2128. SIDELINE

PNL 92.9 94.7 0.0 99.0 102.9 102.3 104.3 103.6 103.5 100.8 94.5

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 17

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 92.0(F) 33.3(C) AREA SQFT 11.89 7.73 SQM 1.105 0.718 MASS FLOW LB/S 804.2 446.4 KG/S 364.8 202.5
 PRES 30.08IN 1.02BAR P.R. 2.00 2.40 2.00 2.40 THRUST,IDL LB ***** N *****
 REL H 29.0Z TEMP (R) 1110.0 2005. (K) 616.7 1113.9 THRUST,MEA LB 0.0 0.0
 SOSPD 1151FPS 350M/S RHO LB/FT3 0.043 0.025 KG/M3 0.694 0.394 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1550.5 2331.3 M/S 472.6 710.6 W (MODEL) LB/S 5.6 3.1 KG/S 2.5 1.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)
 BAND
 CENTER FREQ MICROPHONE ANGLES IN DEGREES POWER
 (KHZ) 60 70 80 90 100 110 120 130 140 150 160 IE-12W
 .050 102.4 102.5 102.3 104.2 106.5 105.9 108.8 113.0 119.0 123.7 125.3 157.7
 .063 102.9 102.8 103.3 104.6 107.9 106.7 109.3 113.5 119.1 124.7 125.1 158.2
 .080 103.0 103.7 104.0 105.4 109.3 108.9 111.3 114.5 119.5 124.4 124.8 158.3
 .100 103.0 104.7 104.8 106.2 109.7 108.8 111.8 114.6 118.5 123.6 124.3 157.8
 .125 103.2 104.4 104.5 106.2 109.8 109.1 112.2 114.9 117.9 122.7 123.7 157.3
 .160 103.0 104.1 104.8 106.2 110.0 109.2 112.4 114.6 117.0 120.8 122.5 156.2
 .200 103.4 104.3 104.8 106.7 110.5 110.0 113.3 114.7 116.9 120.6 121.9 156.2
 .250 104.1 104.7 104.8 107.0 110.9 110.5 114.0 114.8 116.8 120.6 121.3 156.3
 .315 104.5 104.5 105.1 107.2 111.3 111.1 114.2 114.8 117.4 121.1 120.7 156.6
 .400 104.9 104.4 104.8 107.3 111.6 111.4 114.4 114.6 118.1 121.2 119.0 156.6
 .500 104.5 104.6 104.9 107.5 111.5 111.7 114.7 115.0 119.1 120.3 117.5 156.6
 .630 103.3 104.2 105.1 107.6 112.3 112.1 114.6 115.4 119.6 118.7 115.8 156.4
 .800 102.0 104.0 104.7 107.4 112.1 112.3 114.3 115.3 118.8 117.4 114.0 155.8
 1.00 102.1 103.4 104.3 106.7 111.5 111.7 114.0 115.0 116.9 115.7 112.5 154.8
 1.25 101.4 102.8 103.8 106.6 111.0 111.3 113.3 114.6 115.7 114.4 111.1 154.1
 1.60 99.5 101.2 102.5 105.9 109.5 109.7 111.8 112.8 113.9 112.8 109.0 152.5
 2.00 98.3 100.3 101.9 104.9 108.9 109.1 111.0 112.2 113.5 112.0 108.1 151.7
 2.50 96.8 98.9 100.4 103.6 107.9 108.1 109.6 110.9 112.5 110.9 106.6 150.6
 3.15 95.7 98.2 99.5 103.2 107.3 107.6 109.4 110.7 112.2 110.3 106.0 150.2
 4.00 95.3 96.7 98.6 102.2 106.4 106.6 108.8 110.2 111.9 110.6 106.0 149.7
 5.00 94.1 96.0 98.2 101.3 105.7 106.4 108.3 110.3 112.6 111.1 106.1 149.8
 6.30 94.5 96.8 98.4 101.2 106.1 107.5 109.8 112.2 114.5 112.9 107.8 151.3
 8.00 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 55.8
 10.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
 OAPWL = 169.0

OASPL 115.5 116.3 116.9 119.2 123.3 123.2 125.8 127.3 130.5 133.5 133.7
 PHL 123.6 125.2 126.3 129.2 133.3 133.5 135.7 137.1 139.4 139.6 137.7

200. SIDELINE
 PHL 119.6 121.9 123.4 126.5 130.5 130.2 131.6 131.8 132.4 130.5 125.1

370. SIDELINE
 PHL 113.6 115.9 117.5 120.5 124.5 124.1 125.5 125.6 126.1 124.4 118.9

800. SIDELINE
 PHL 105.7 107.7 109.4 112.3 116.3 115.8 117.1 117.0 117.5 116.2 110.5

2128. SIDELINE
 PHL 94.4 96.1 97.3 100.1 104.1 103.3 105.0 104.5 105.4 104.3 98.7

B17

11

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 18

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	11.89	7.73	SQH	1.105	0.718	MASS FLOW	LB/S	524.4	445.8	KG/S	237.9	202.2
PRES	30.08IN	1.02BAR	P.R.		1.40	2.40		1.40	2.40	THRUST, IOL	LB	*****	*****			
REL H	30.0%		TEMP	(R)	1099.0	2007.	(K)	610.6	1115.0	THRUST, MEA	LB	0.0	0.0	N	0.0	0.0
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.040	0.025	KG/M3	0.638	0.394	AREA (MOO)	SQFT	0.08	0.05	SQH	0.008	0.005
			VEL	FPS	1102.5	2332.6	M/S	336.0	711.0	W (MODEL)	LB/S	3.6	3.1	KG/S	1.7	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

63

70

80

90

100

110

MICROPHONE ANGLES IN DEGREES

120

130

140

150

160

POWER

1E-12W

.050	97.6	97.5	98.0	99.3	102.4	101.9	105.0	108.9	113.3	115.9	117.4	151.0
.063	97.3	98.0	98.3	100.4	103.5	102.9	105.7	109.7	113.1	114.9	114.7	150.5
.080	97.1	98.5	99.3	101.1	104.7	104.3	107.5	111.1	113.1	112.8	112.2	150.3
.100	97.4	99.1	99.8	101.4	105.2	104.6	108.3	111.5	112.3	111.4	110.0	150.0
.125	98.0	99.5	100.2	102.1	105.9	105.5	109.4	112.0	112.1	110.9	109.6	150.3
.160	98.1	100.1	101.3	102.7	106.8	106.3	110.4	112.3	111.8	110.4	109.8	150.6
.200	99.6	101.0	101.8	103.8	107.9	107.5	112.0	112.8	112.3	111.7	111.8	151.6
.250	100.9	101.9	102.2	104.5	108.7	108.6	113.1	113.3	113.2	113.4	114.0	152.7
.315	102.1	102.5	103.3	105.2	109.6	109.6	113.8	114.1	114.6	116.1	116.2	153.9
.400	103.2	102.9	103.4	105.7	110.1	110.3	114.2	114.5	115.9	118.2	117.2	154.9
.500	103.1	103.0	103.6	106.0	110.5	110.7	114.5	115.3	117.4	119.3	117.4	155.7
.630	102.1	102.9	103.8	106.2	111.3	111.2	114.4	115.8	118.5	119.0	115.6	156.0
.800	101.4	103.0	103.7	106.2	111.1	111.4	114.0	115.6	118.4	117.4	113.7	155.5
1.00	102.3	102.4	103.3	105.7	110.7	110.9	113.5	114.3	116.3	114.9	111.9	154.1
1.25	103.5	103.7	103.4	105.8	110.3	110.6	112.8	114.0	115.3	114.1	110.4	153.6
1.60	100.8	102.8	103.6	105.3	108.9	109.2	111.3	112.7	113.4	112.2	100.5	152.1
2.00	98.4	100.8	102.7	104.9	108.2	108.5	110.5	112.0	113.0	111.5	107.6	151.3
2.50	97.1	98.8	100.7	103.8	107.7	107.6	109.5	110.7	112.0	110.1	106.2	150.2
3.15	95.7	98.2	99.5	103.0	107.0	107.3	109.2	110.5	111.6	109.6	105.4	149.8
4.00	95.0	96.6	98.4	101.8	106.1	106.2	108.5	110.1	111.2	109.8	105.1	149.2
5.00	93.7	95.7	97.9	101.0	105.4	106.1	108.3	110.1	111.9	110.2	104.6	149.4
6.30	93.8	96.0	97.7	100.8	105.5	107.1	109.6	112.1	113.6	111.7	105.9	150.7
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 166.0

OASPL 113.4 114.3 115.1 117.4 121.7 121.8 125.0 126.3 127.9 128.0 126.4

PHL 122.8 124.3 125.5 128.3 132.4 132.6 135.1 136.6 137.8 136.9 134.1

200. SIDELINE

PHL 118.8 121.0 122.7 125.6 129.5 129.3 131.1 131.3 130.9 127.4 121.3

370. SIDELINE

PHL 112.8 115.1 116.8 119.5 123.5 123.2 124.9 125.1 124.5 121.3 114.9

800. SIDELINE

PHL 104.6 107.0 108.6 111.3 115.2 114.8 116.4 116.4 115.7 112.8 106.1

2128. SIDELINE

PHL 92.6 94.7 96.3 98.7 102.6 102.0 104.2 103.8 103.2 100.1 93.0

20188F Q1253 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 19

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	684.0	436.3	KG/S	310.3	197.9
PRES	30.07IN	1.02BAR	P.R.		2.08	2.10		2.08	2.10	THRUST, IDL	LB	*****954316.1		N	*****	
REL H	29.0Z		TEMP	(R)	1586.0	1646.	(K)	881.1	914.4	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.029	KG/M3	0.485	0.468	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1907.1	1956.3	M/S	581.3	596.3	W (MODEL)	LB/S	4.8	3.0	KG/S	2.2	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	102.3	102.0	102.5	104.4	107.0	106.8	110.0	115.7	122.2	125.3	125.5	
.063	102.9	103.2	103.8	105.1	108.7	107.8	111.0	117.3	124.0	126.5	124.9	
.080	103.1	103.9	104.4	106.0	110.3	110.8	113.4	118.8	125.8	126.9	125.3	
.100	103.7	105.3	105.8	106.9	110.8	110.6	113.9	119.0	126.0	127.0	125.1	
.125	104.3	104.5	105.4	106.6	110.7	111.0	114.1	118.8	126.1	127.3	124.8	
.160	103.2	104.2	105.3	106.6	110.6	110.7	114.3	118.4	125.1	126.1	123.5	
.200	103.3	103.8	105.0	107.0	110.9	111.2	114.8	118.0	124.4	124.9	121.9	
.250	103.7	103.8	104.8	106.5	111.0	111.4	115.0	117.7	123.1	122.9	120.1	
.315	104.1	103.9	105.0	106.9	111.2	111.6	114.7	117.1	121.8	121.2	118.5	
.400	104.1	103.8	104.7	106.5	110.9	111.5	114.3	116.1	120.1	119.6	116.8	
.500	103.2	103.3	104.4	106.5	110.7	111.2	114.1	115.4	118.9	118.5	115.5	
.630	101.6	102.7	104.1	106.3	111.1	111.1	113.7	114.4	117.4	117.1	114.0	
.800	100.6	102.3	103.7	105.7	110.5	110.7	112.7	113.2	116.1	115.9	112.8	
1.00	100.5	101.4	102.8	105.1	109.7	109.8	112.1	112.0	114.8	114.3	110.9	
1.25	99.2	100.6	102.1	104.4	108.8	109.1	111.2	110.9	113.4	113.0	109.5	
1.60	97.5	98.9	100.6	103.5	107.0	107.5	109.4	108.9	111.1	111.2	107.3	
2.00	96.2	97.8	99.8	102.2	105.9	106.2	107.9	108.2	110.6	110.2	106.6	
2.50	94.9	96.4	98.4	100.7	105.0	105.1	106.6	106.6	109.5	109.0	105.0	
3.15	93.6	95.6	97.5	100.1	104.3	104.4	106.0	105.9	108.8	108.5	104.2	
4.00	92.8	94.1	96.5	98.9	103.2	103.0	104.6	104.9	108.3	108.6	104.4	
5.00	91.6	93.3	95.9	97.9	102.2	102.5	104.4	104.6	109.3	109.8	104.8	
6.30	92.0	94.0	95.9	97.7	102.7	103.4	105.5	106.3	111.7	112.1	107.1	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

OAPWL = 170.9

OASP: 114.9 115.5 116.6 118.4 122.6 122.8 125.7 128.7 134.7 135.7 133.7
 PNL 122.2 123.4 124.9 127.1 131.3 131.5 133.7 134.9 139.5 139.8 136.8

200. SIDELINE

PNL 118.2 120.1 122.1 124.5 128.5 128.3 129.7 129.8 132.9 130.9 124.2

370. SIDELINE

PNL 112.4 114.2 116.2 118.5 122.5 122.3 123.7 124.0 127.0 124.9 118.1

800. SIDELINE

PNL 104.7 106.1 108.1 110.4 114.5 114.1 115.7 116.2 119.2 116.9 109.9

2128. SIDELINE

PNL 93.5 95.0 96.8 98.9 103.1 102.8 104.5 105.2 108.3 105.7 98.6

B19

20180F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 20

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	603.4	388.8	KG/S	273.7	176.4
PRES	30.07IN	1.02BAR	P.R.		1.93	1.93		1.93	1.93	THRUST,IDL	LB	*****620985.6		N*****		
REL H	30.0%		TEMP	(R)	1723.0	1716.	(K)	957.2	953.3	THRUST,NEA	LB		0.0	N		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.027	0.027	KG/M3	0.437	0.439	AREA (HGO)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1894.7	1888.7	M/S	577.5	575.7	W (MODEL)	LB/S	4.2	2.7	KG/S	1.9	1.2

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	101.7	101.3	101.8	103.8	106.3	106.3	109.7	115.6	121.8	124.3	124.4	158.6
.063	101.9	102.5	103.1	104.4	108.1	107.4	110.7	117.0	123.4	125.5	123.7	159.7
.080	102.3	103.2	103.9	105.4	109.7	110.1	112.8	118.5	125.0	125.6	124.2	160.7
.100	103.0	104.7	105.3	106.3	110.3	110.1	113.3	118.7	125.5	126.0	124.2	161.1
.125	103.5	103.9	104.8	106.0	110.1	110.4	113.7	118.5	125.3	126.4	124.0	161.1
.160	102.4	103.5	104.4	105.9	110.1	110.1	113.7	117.9	124.3	125.1	122.5	160.1
.200	102.3	103.0	104.2	106.1	110.4	110.6	114.1	117.5	123.1	123.4	120.4	159.0
.250	102.3	102.9	104.0	105.8	110.5	110.8	114.1	116.9	121.9	121.1	118.2	157.7
.315	102.5	102.6	104.1	105.9	110.5	110.9	114.0	116.1	120.2	118.9	115.9	156.4
.400	102.5	102.3	103.4	105.4	110.1	110.6	113.4	115.1	118.4	116.9	114.0	155.1
.500	102.1	102.1	103.4	105.4	109.9	110.2	113.2	114.1	116.7	115.3	112.4	154.1
.630	100.6	101.8	103.1	105.4	110.3	110.0	112.5	113.2	115.1	114.2	111.4	153.2
.800	99.9	101.6	103.0	105.2	110.0	109.9	111.4	111.9	114.0	113.9	111.5	152.5
1.00	100.1	101.0	102.2	104.5	109.0	109.1	110.9	110.5	112.6	112.5	110.3	151.5
1.25	98.5	99.8	101.5	103.6	108.0	108.0	109.6	109.3	110.9	110.7	108.3	150.1
1.60	96.9	98.2	100.1	103.0	106.4	106.6	108.1	107.4	108.7	108.7	105.8	148.4
2.00	95.6	97.4	99.5	101.7	105.2	105.6	106.7	106.7	108.1	107.6	105.1	147.4
2.50	94.1	95.7	97.9	100.2	104.3	104.3	105.5	105.0	106.5	106.0	103.1	146.0
3.15	92.8	95.1	96.8	99.5	103.4	103.6	104.8	104.1	105.7	105.3	102.2	145.2
4.00	91.9	93.4	95.8	98.3	102.4	102.1	103.4	103.1	105.2	105.7	102.3	144.3
5.00	90.5	92.3	95.2	97.2	101.3	101.6	103.0	102.8	106.2	106.6	102.6	144.3
6.30	90.8	93.0	95.1	96.9	101.5	102.3	103.9	104.4	108.5	108.8	105.1	145.7
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 169.9

OASPL 114.0 114.7 115.8 117.7 122.0 122.1 124.8 128.1 133.7 134.4 132.5
 PHL 121.3 122.6 124.3 126.5 130.6 130.7 132.7 133.7 137.8 137.9 135.3

200. SIDELINE

PHL 117.3 119.4 121.4 123.8 127.8 127.5 128.6 128.7 131.1 128.9 122.8

370. SIDELINE

PHL 111.3 113.4 115.5 117.8 121.8 121.5 122.6 122.9 125.3 123.0 116.7

800. SIDELINE

PHL 103.5 105.3 107.5 109.8 113.8 113.3 114.7 115.2 117.6 115.1 108.6

2128. SIDELINE

PHL 92.3 94.0 95.9 98.1 102.3 102.0 103.6 104.3 106.8 104.2 97.3

B20

20180F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 21

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	584.6	439.6	KG/S	265.2	222.1
PRES	30.07IN	1.02BAR	P.R.		1.79	2.35		1.79	2.35	THRUST, IOL	LB	*****	*****	*****	*****	*****
REL H	29.0%		TEMP	(R)	1515.0	1665.	(K)	841.7	925.0	THRUST, MEA	LB	0.0	H	0.0	0.0	
SDSFD	1149FPS	350M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.490	0.475	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1675.0	2095.1	M/S	510.5	638.6	H (MODEL)	LB/S	4.1	3.4	KG/S	1.8	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

MICROPHONE ANGLES IN DEGREES

120

130

140

150

160

POWER

1E-12W

.050	101.6	101.3	101.9	103.6	106.1	105.9	109.3	114.0	120.5	123.9	124.3
.063	101.9	102.5	103.1	104.3	107.9	107.2	110.0	115.0	121.5	125.0	124.0
.080	102.5	103.3	104.0	105.2	109.3	109.8	112.0	115.9	122.4	125.2	124.6
.100	102.7	104.6	105.2	106.1	109.9	109.4	112.4	115.7	121.6	124.7	124.2
.125	103.7	103.9	104.8	105.7	109.8	109.7	112.7	115.7	120.7	124.0	123.8
.160	102.8	103.6	104.7	105.8	109.8	109.5	112.8	115.1	119.0	122.5	122.6
.200	102.9	103.3	104.5	106.2	110.1	110.0	113.0	115.0	117.9	121.4	121.6
.250	103.4	103.6	104.4	106.0	110.3	110.3	113.3	114.8	117.2	120.6	120.8
.315	103.5	103.4	104.6	106.3	110.7	110.7	113.4	114.4	116.9	120.3	119.8
.400	103.6	103.2	104.1	105.9	110.5	110.6	113.2	113.9	116.4	119.8	118.7
.500	102.9	103.0	103.9	105.9	110.2	110.5	113.2	113.5	116.7	119.2	117.4
.630	101.7	102.6	103.7	105.9	110.8	110.6	113.0	113.2	116.8	117.8	115.5
.800	100.8	102.2	103.4	105.5	110.2	110.4	112.4	112.4	116.4	116.6	114.2
1.00	101.8	101.9	102.9	105.0	109.5	109.8	112.0	112.0	115.3	115.0	112.4
1.25	101.5	102.3	102.8	104.4	109.0	109.2	111.3	111.5	113.8	113.8	111.1
1.60	98.9	100.3	101.8	104.0	107.2	107.9	109.7	109.6	111.6	112.1	109.0
2.00	97.0	98.8	101.0	103.1	106.5	106.8	108.5	109.0	111.5	111.1	109.2
2.50	95.9	97.2	99.2	101.6	105.4	105.9	107.3	107.3	109.9	109.8	106.5
3.15	94.5	96.6	98.3	100.9	104.9	105.3	107.0	106.9	109.5	109.3	105.7
4.00	93.6	95.0	97.3	99.7	103.9	104.0	105.8	106.2	109.2	109.4	106.0
5.00	92.4	94.2	96.6	98.7	102.9	103.5	105.4	105.8	109.8	110.2	106.1
6.30	92.7	94.9	97.0	98.4	103.0	104.3	106.5	107.4	111.7	112.0	109.4
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 168.8

CASPL	114.7	115.3	116.3	118.0	122.2	122.2	124.8	126.5	131.0	133.8	133.2
PHL	122.7	123.8	125.3	127.4	131.5	131.7	133.8	134.5	137.8	139.1	137.3

260. SIDELINE

PHL	118.7	120.6	122.5	124.7	128.6	128.5	129.8	129.3	130.9	129.8	124.7
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370. SIDELINE

PHL	112.7	114.6	116.5	118.7	122.6	122.4	123.7	123.2	124.6	123.8	118.5
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600. SIDELINE

PHL	104.7	106.5	108.5	110.6	114.4	114.2	115.3	114.8	116.2	115.6	110.2
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2128. SIDELINE

PHL	93.4	94.9	96.6	98.6	102.8	102.3	103.8	103.3	104.5	103.9	93.4
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B21

11

20188F Q125B VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 22

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	401.8	400.3	KG/S	182.2	181.6
PRES	30.07IN	1.02BAR	P.R.		1.36	2.09		1.36	2.09	THRUST,IDL	LB	*****960334.9		*****		
REL H	29.0%		TEMP	(R)	1323.0	1992.	(K)	735.0	1106.7	THRUST,MEA	LB	0.0		H	0.0	
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.033	0.024	KG/M3	0.524	0.384	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1154.8	2145.7	M/S	352.0	654.0	W (MODEL)	LB/S	2.8	2.8	KG/S	1.3	1.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

MICROPHONE ANGLES IN DEGREES

POWER

(KHZ)	60	70	80	90	100	110	120	130	140	150	160	
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1E-12W

.050	96.4	96.0	97.1	98.5	101.3	101.1	104.2	107.8	112.3	114.8	115.8	149.9
.063	96.3	96.8	97.3	99.2	102.5	102.0	104.7	108.4	111.8	113.7	113.6	149.3
.080	96.0	97.4	98.3	99.8	103.5	103.3	106.3	109.2	111.5	111.1	111.0	148.8
.100	95.9	97.6	98.7	99.9	103.8	103.4	106.8	109.4	110.4	109.4	108.6	148.2
.125	96.7	97.8	98.9	100.3	104.5	104.1	107.4	109.5	109.6	108.4	107.2	148.1
.160	96.4	98.3	99.8	101.0	105.1	104.7	108.4	109.6	109.1	107.4	106.6	146.3
.200	97.6	98.9	100.2	102.0	106.0	105.9	109.6	109.7	109.4	106.1	107.9	149.0
.250	98.5	99.5	100.7	102.4	106.9	106.7	110.4	110.1	109.9	109.4	109.5	149.7
.315	100.0	100.1	101.5	103.4	107.7	107.6	111.2	110.7	110.9	111.5	111.7	150.8
.400	100.9	100.5	101.5	103.3	108.0	108.3	111.4	111.5	112.0	113.3	113.0	151.6
.500	100.9	100.6	101.6	103.7	108.3	108.5	111.5	112.3	113.6	114.9	113.9	152.4
.630	99.7	100.5	101.7	104.0	108.9	108.8	111.5	112.7	114.1	115.2	113.6	152.7
.800	98.3	100.2	101.4	103.8	108.6	108.9	111.0	112.0	113.6	114.3	111.7	152.1
1.00	98.5	99.4	101.0	103.5	108.1	108.3	110.5	110.8	112.6	112.0	109.5	151.0
1.25	97.6	98.8	100.5	103.0	107.6	108.0	109.8	110.2	111.5	110.7	108.3	150.3
1.60	95.8	97.4	99.1	102.4	105.9	106.5	108.2	108.5	109.4	108.9	106.3	148.6
2.00	94.7	96.5	98.6	101.1	105.2	105.7	107.2	108.0	108.8	107.9	105.7	147.8
2.50	93.4	95.1	97.5	99.8	104.3	104.7	106.1	106.5	107.6	106.6	103.9	146.6
3.15	92.2	94.3	96.2	99.3	103.5	104.0	105.6	105.9	106.8	105.8	103.1	145.9
4.00	91.5	92.9	95.4	98.2	102.5	102.7	104.4	105.2	106.4	105.8	102.8	145.1
5.00	90.3	92.0	94.8	97.3	101.7	102.3	104.3	104.9	106.8	105.9	102.1	144.9
6.30	90.2	92.6	95.0	97.1	101.8	103.2	105.3	106.3	108.3	107.2	103.4	146.0
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 162.9

OASPL 110.7 111.5 112.9 115.0 119.3 119.5 122.2 123.0 124.3 124.7 123.7
 PNL 119.5 120.9 122.8 125.2 129.5 129.8 131.9 132.6 133.6 133.2 131.2

200. SIDELINE

PNL 115.5 117.7 119.9 122.5 126.6 126.5 127.9 127.3 126.7 123.8 118.4

370. SIDELINE

PNL 109.5 111.6 114.0 116.5 120.6 120.4 121.8 121.1 120.4 117.5 112.0

800. SIDELINE

PNL 101.3 103.4 105.7 108.2 112.4 112.1 113.3 112.7 111.7 109.0 103.1

2128. SIDELINE

PNL 89.8 91.5 93.5 96.0 100.1 99.7 101.4 100.6 99.4 96.3 89.6

B22

20108F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018: CONDITION 23

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	452.2	432.0	KG/S	205.1	196.0
PRES	30.07IN	1.02BAR	P.R.		1.46	2.24		1.46	2.24	THRUST,IDL	LB	*****	*****			
REL H	29.0%		TEMP	(R)	1398.0	1992.	(K)	776.7	1106.7	THRUST,NEA	LB		0.0	H		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.032	0.024	KG/M3	0.505	0.390	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1317.3	2239.7	M/S	401.5	682.6	W (MODEL)	LB/S	3.1	3.0	KG/S	1.4	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	99.0	98.5	99.1	100.8	103.6	103.3	106.2	110.3	115.4	118.8	119.7	153.3
.063	98.8	99.4	99.8	101.2	104.8	104.2	107.6	110.7	114.8	118.5	118.7	153.0
.080	98.7	99.8	100.5	101.8	106.0	105.6	108.5	111.5	114.5	116.5	117.3	152.4
.100	98.4	100.1	100.9	102.1	106.1	105.5	109.0	111.5	113.1	114.5	115.3	151.4
.125	99.1	99.9	100.8	102.2	106.4	106.0	109.3	111.6	112.4	112.9	113.8	150.9
.160	98.6	100.1	101.6	102.9	107.1	106.6	110.1	111.4	111.6	111.9	112.9	150.8
.200	99.8	100.8	102.0	103.6	107.9	107.6	111.0	111.4	111.6	112.3	113.6	151.2
.250	100.7	101.4	102.4	104.2	108.6	108.4	111.6	111.7	112.0	113.6	115.0	152.0
.315	101.7	101.9	103.1	104.9	109.2	109.2	112.4	112.1	113.0	115.6	116.2	153.0
.400	102.5	102.0	102.9	104.8	109.5	109.8	112.5	112.3	113.8	116.8	116.5	153.5
.500	102.1	102.1	102.9	105.1	109.6	109.9	112.7	112.9	115.5	117.6	116.0	154.1
.630	100.8	101.8	102.9	105.3	110.4	110.3	112.8	113.4	116.4	116.8	114.2	154.2
.800	99.9	101.5	102.8	105.1	110.1	110.4	112.2	113.1	116.4	115.4	112.7	153.7
1.00	100.1	101.0	102.1	104.6	109.5	109.8	111.9	112.4	115.4	113.6	110.8	152.8
1.25	99.8	100.4	101.9	104.2	109.1	109.4	111.3	111.7	113.6	112.4	109.6	151.9
1.60	98.5	99.4	100.7	103.7	107.5	108.0	109.9	110.3	111.6	110.6	107.4	150.3
2.00	96.7	98.8	100.6	102.6	106.7	107.3	108.9	109.9	111.3	109.7	106.8	149.6
2.50	95.2	97.0	99.3	101.7	105.9	106.5	107.7	108.5	110.1	108.5	105.0	148.5
3.15	94.0	96.1	98.2	100.9	105.2	105.8	107.4	107.9	109.5	107.8	104.1	147.9
4.00	93.3	94.6	97.1	99.8	104.3	104.6	106.5	107.3	109.2	108.0	104.0	147.2
5.00	92.1	93.9	96.7	99.0	103.5	104.5	106.2	107.3	109.9	108.1	103.5	147.3
6.30	92.1	94.4	96.8	98.9	103.8	105.5	107.5	109.0	111.7	110.1	105.4	148.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 165.2

OASPL 112.6 113.3 114.5 116.5 121.0 121.1 123.7 124.6 126.8 127.9 127.6
 PHL 121.4 122.7 124.5 126.8 131.1 131.6 133.6 134.4 136.3 135.8 133.9

200. SIDELINE

PHL 117.4 119.5 121.7 124.1 128.3 128.3 129.5 129.1 129.3 126.4 121.2

370. SIDELINE

PHL 111.4 113.5 115.7 118.1 122.3 122.2 123.4 122.9 122.9 120.3 114.9

800. SIDELINE

PHL 103.2 105.4 107.5 109.9 114.1 113.9 115.0 114.4 114.2 111.8 106.3

2128. SIDELINE

PHL 91.7 93.3 95.1 97.5 101.8 101.4 102.9 101.9 101.8 99.4 93.6

B23

20188F Q1258 VCE PRI/FAH NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 24

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	469.4	479.5	KG/S	212.9	217.5
PRES	30.07IN	1.02BAR	P.R.		1.52	2.49		1.52	2.49	THRUST,IDL	LB	*****	*****			
REL H	30.0Z		TEMP	(R)	1502.0	1999.	(K)	834.4	1110.6	THRUST,MEA	LB	0.0	0.0	N	0.0	0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.025	KG/M3	0.474	0.399	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1432.6	2371.0	M/S	436.7	722.7	W (MODEL)	LB/S	3.3	3.3	KG/S	1.5	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	

.050	100.7	100.3	100.9	102.5	105.2	104.9	108.1	112.6	118.4	121.6	122.3	155.9
.063	101.0	101.5	101.9	103.3	106.8	106.1	108.9	113.1	118.1	121.9	122.0	156.1
.080	101.3	102.1	102.8	103.9	107.8	108.0	110.8	113.7	118.0	120.9	121.5	155.9
.100	101.0	102.8	103.5	104.6	108.3	107.6	111.1	113.7	116.5	119.4	120.3	154.9
.125	101.9	102.3	103.3	104.5	108.4	108.2	111.4	113.7	115.5	117.9	119.3	154.2
.160	101.2	102.4	103.7	105.0	108.9	108.6	112.0	113.4	114.5	116.5	118.3	153.7
.200	102.0	102.8	104.0	105.6	109.6	109.5	112.8	113.5	114.6	116.9	118.7	154.1
.250	102.9	103.4	104.2	106.0	110.2	110.2	113.4	113.7	115.1	118.0	119.2	154.7
.315	103.6	103.6	104.7	106.5	110.8	110.9	114.0	113.7	116.4	119.5	119.5	155.6
.400	103.9	103.6	104.5	106.4	111.0	111.4	114.1	114.0	117.3	120.0	118.6	155.9
.500	103.4	103.4	104.4	106.6	111.1	111.5	114.2	114.6	118.8	119.6	117.0	156.1
.630	102.4	103.2	104.5	106.8	111.7	111.9	114.4	115.1	119.1	117.7	115.0	155.9
.800	101.8	103.1	104.5	106.6	111.5	111.8	113.9	115.0	118.1	116.4	113.5	155.2
1.00	103.3	103.1	104.1	106.4	111.0	111.4	113.8	114.5	116.5	114.8	111.7	154.4
1.25	102.7	103.6	104.1	105.9	110.5	110.9	112.9	114.0	115.3	113.7	110.7	153.6
1.60	100.3	101.8	103.5	105.8	109.1	109.8	111.6	112.4	113.4	112.0	108.6	152.2
2.00	98.5	100.5	102.7	104.9	108.5	109.0	110.5	112.0	113.1	111.1	107.9	151.4
2.50	97.6	99.0	101.0	103.6	107.8	108.2	109.5	110.5	112.2	109.9	106.3	150.3
3.15	96.3	98.5	100.4	102.9	107.3	107.6	109.2	110.1	111.6	109.5	105.3	149.8
4.00	95.4	96.8	99.4	101.8	106.3	106.6	108.3	109.7	111.6	109.5	105.5	149.3
5.00	94.2	96.0	98.7	100.9	105.7	106.3	108.4	109.9	112.2	109.9	105.2	149.4
6.30	94.1	96.4	98.8	100.8	105.9	107.4	109.8	111.8	114.1	111.6	107.2	150.9
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 167.6

OASPL 114.7 115.4 116.5 118.4 122.7 122.9 125.4 126.6 129.5 131.0 130.8

PHL 123.6 124.9 126.5 128.7 133.0 133.3 135.4 136.5 138.7 138.0 136.2

200. SIDELINE

PHL 119.6 121.6 123.7 126.0 130.2 130.0 131.3 131.3 131.6 128.8 123.5

370. SIDELINE

PHL 113.6 115.6 117.7 120.0 124.1 124.0 125.2 125.0 125.3 122.7 117.3

800. SIDELINE

PHL 105.3 107.3 109.5 111.8 115.8 115.6 116.7 116.5 116.7 114.4 108.8

2128. SIDELINE

PHL 93.7 95.3 97.2 99.5 103.4 103.1 104.6 103.9 104.6 102.4 96.6

20188F Q1258 VCE PRI/FAH NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 25

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	398.9	616.3	KG/S	180.9	279.6
PRES	30.07IN	1.02BAR	P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	*****	*****	*****	*****	*****
REL H	29.0Z		TEMP	(R)	1499.0	2014.	(K)	832.8	1118.9	THRUST,NEA	LB	0.0		N	0.0	
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.026	KG/M3	0.475	0.421	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1431.1	2649.7	M/S	436.2	807.6	W (MODEL)	LB/S	2.8	4.3	KG/S	1.3	1.9

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	103.4	103.0	103.6	105.3	108.0	107.6	110.9	115.8	121.8	125.0	125.6	159.3
.063	103.7	104.2	104.7	106.1	109.5	108.6	111.8	116.7	121.9	125.5	125.5	159.6
.080	104.5	104.8	105.7	106.9	110.9	111.1	113.8	117.6	122.1	125.1	125.5	159.8
.100	104.5	106.6	106.6	107.9	111.6	111.0	114.6	117.7	120.8	124.3	125.0	159.3
.125	105.8	105.9	106.6	107.9	111.9	111.6	115.0	117.9	120.2	123.9	125.0	159.1
.160	105.2	106.3	107.2	108.6	112.4	112.0	115.8	117.9	119.8	123.7	124.9	159.1
.200	105.8	106.3	107.4	109.1	113.0	112.9	116.9	118.0	120.5	124.7	125.1	159.7
.250	106.5	106.6	107.3	109.1	113.6	113.7	117.5	118.5	122.0	125.3	124.6	160.4
.315	106.9	106.6	107.9	109.9	114.2	114.4	118.3	119.0	123.7	125.4	123.0	160.9
.400	107.3	106.6	107.6	109.7	114.3	114.8	118.3	119.7	124.3	123.8	120.5	160.6
.500	109.8	107.5	107.8	110.1	114.5	115.1	118.7	122.5	124.4	121.7	118.8	160.4
.630	110.7	110.3	108.9	110.4	115.4	115.5	118.6	121.1	122.6	120.4	117.0	159.9
.800	108.5	110.6	110.7	110.9	115.3	115.6	118.2	120.7	120.9	119.3	115.5	159.2
1.00	107.3	108.6	110.2	111.8	115.0	115.1	117.9	119.6	120.1	117.7	114.0	158.5
1.25	107.1	107.7	108.8	111.5	115.2	114.8	117.0	118.7	119.0	116.8	112.9	157.8
1.60	105.8	106.9	107.7	110.5	113.8	113.5	115.8	117.0	117.2	115.2	111.0	156.3
2.00	104.3	106.1	107.6	109.6	113.0	113.0	114.8	116.9	117.2	114.6	110.5	155.8
2.50	103.4	104.9	106.7	108.7	112.3	112.4	113.9	115.8	116.4	113.5	109.0	154.9
3.15	102.0	104.3	105.9	108.4	112.1	112.0	114.1	115.7	116.1	112.9	108.4	154.6
4.00	101.1	102.6	105.0	107.5	111.3	111.0	113.3	115.7	116.1	113.5	108.7	154.2
5.00	99.8	101.9	104.4	107.1	111.0	111.4	113.7	116.1	117.3	114.3	108.8	154.8
6.30	99.8	102.4	104.8	107.3	111.8	112.8	115.4	118.5	119.6	116.4	110.9	156.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 172.1

OASPL 119.5 119.9 120.8 122.6 126.5 126.6 129.6 131.7 134.3 135.6 135.1
 PHL 128.8 130.1 131.4 133.6 137.4 137.4 139.9 142.1 143.7 142.3 139.9

200. SIDELINE

PHL 124.8 126.8 128.5 130.9 134.5 134.1 135.9 136.7 136.5 133.1 127.2

370. SIDELINE

PHL 118.8 120.7 122.5 124.8 128.5 128.0 129.7 130.4 130.0 127.1 121.1

800. SIDELINE

PHL 110.6 112.4 114.3 116.4 120.1 119.6 121.1 121.6 121.7 118.9 112.7

2128. SIDELINE

PHL 98.9 100.3 101.6 103.9 107.5 106.8 108.8 109.2 109.8 107.1 100.9

20192F Q1472 VCE MODEL HOZ. PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/18/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION 26

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.9(F)	30.6(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	504.0	728.6	KG/S	228.6	330.5
PRES	30.18IN	1.02BAR	P.R.		1.58	2.39		1.58	2.39	THRUST,IDL	LB	*****	*****			
REL H	17.0Z		TEMP	(R)	1420.0	783.	(K)	788.9	435.0	THRUST,MEA	LB	0.0	N	0.0		
SOSPD	1146FPS	349M/S	RHO	LB/FT3	0.032	0.065	KG/M3	0.508	1.041	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1453.7	1442.0	M/S	443.1	439.5	W (MODEL)	LB/S	3.5	5.1	KG/S	1.6	2.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	99.3	99.2	99.4	100.8	101.6	103.6	106.2	111.5	116.8	121.0	120.7	154.8
.063	98.5	99.1	99.2	101.1	102.6	104.4	106.9	112.1	117.5	121.5	120.6	155.2
.080	99.3	100.2	100.5	102.4	104.1	106.6	108.5	112.9	118.0	121.0	120.5	155.4
.100	98.9	100.2	101.1	102.2	103.5	105.9	108.4	112.3	116.5	119.2	118.9	154.0
.125	98.2	99.3	100.3	101.3	103.4	105.5	108.3	112.1	115.0	117.0	116.8	152.5
.160	97.0	98.4	99.6	100.8	102.9	105.0	108.1	111.5	113.5	113.8	113.8	150.8
.200	96.8	98.0	99.1	100.8	102.8	105.1	108.1	111.3	112.3	112.2	111.0	150.0
.250	97.2	98.0	98.9	100.6	102.7	105.0	107.9	110.7	111.0	110.4	108.5	149.1
.315	97.7	97.9	99.1	100.8	102.5	104.7	107.5	109.9	109.9	108.2	106.5	148.2
.400	98.2	97.8	98.4	100.2	102.0	104.2	106.6	108.8	108.4	106.7	105.1	147.2
.500	97.9	97.7	98.0	99.9	101.7	103.7	106.1	108.1	106.8	105.2	103.9	146.4
.630	97.2	97.7	97.9	99.5	101.1	103.2	105.4	106.9	105.7	103.9	102.9	145.6
.800	98.2	98.3	98.0	99.2	100.7	102.7	104.5	105.7	104.3	103.2	101.8	144.7
1.00	103.9	101.9	99.2	99.0	100.3	101.6	103.9	104.6	103.3	101.6	100.4	144.7
1.25	105.3	105.5	103.5	101.1	100.4	101.1	103.1	104.0	102.5	100.7	98.9	145.5
1.60	102.2	104.2	104.6	104.6	101.3	100.7	102.4	103.1	101.1	99.8	97.8	145.5
2.00	100.9	102.1	103.4	105.3	103.7	102.2	102.6	103.8	102.3	100.5	98.9	145.6
2.50	101.0	102.0	102.6	104.5	104.4	103.9	103.1	103.8	102.7	101.4	100.2	145.8
3.15	100.2	102.2	103.2	105.6	104.7	105.7	105.0	104.5	103.1	102.2	101.4	146.7
4.00	100.4	101.6	103.1	106.7	104.3	105.4	105.8	105.2	103.3	102.8	102.5	147.0
5.00	99.8	101.4	103.2	107.6	104.6	105.1	105.1	105.0	103.6	103.1	101.8	147.1
6.30	100.9	102.4	103.8	108.6	106.0	106.0	105.6	105.6	104.2	103.2	101.7	147.9
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 163.7

OASPL 113.6 114.3 114.7 116.8 116.5 117.8 119.7 122.6 125.3 127.9 127.3

PHL 125.0 126.2 126.9 129.5 128.5 129.5 130.3 131.2 130.7 130.5 129.7

200. SIDELINE

PHL 120.8 122.9 124.1 126.8 125.6 126.2 126.2 125.9 123.7 121.2 116.7

370. SIDELINE

PHL 114.6 116.7 117.9 120.5 119.5 120.0 119.9 119.6 117.4 115.2 110.5

800. SIDELINE

PHL 106.0 108.0 109.3 111.5 110.9 111.4 111.2 110.8 109.0 107.1 102.1

2128. SIDELINE

PHL 92.7 94.8 96.0 97.7 97.4 97.5 98.1 98.9 97.8 95.9 90.6

20188F Q1259 VCE PRI/FAN NOZ NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 27

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 90.0(F) 32.2(C) AREA SQFT 11.89 7.73 SQM 1.105 0.718 MASS FLOW LB/S 442.1 620.6 KG/S 200.5 281.5
 PRES 29.75IN 1.01BAR P.R. 1.61 3.24 1.61 3.24 THRUST,IDL LB *****
 REL H 30.0% TEMP (R) 1470.0 1995. (K) 816.7 1108.3 THRUST,MEA LB 0.0 N 0.0
 SDSPD 1149FPS 350M/S RHO LB/FT3 0.031 0.027 KG/M3 0.492 0.426 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1504.3 2647.9 M/S 458.5 807.1 W (MODEL) LB/S 3.1 4.3 KG/S 1.4 2.0

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ) 60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050 103.5 103.3 104.0 105.1 108.4 107.9 111.2 116.0 122.5 125.8 125.9
 .063 103.9 104.0 104.9 106.1 109.8 108.5 111.8 116.6 122.4 126.2 125.5
 .080 104.5 105.0 105.8 106.9 111.2 110.9 113.9 117.7 122.6 125.9 125.6
 .100 104.5 106.3 106.8 107.9 111.9 110.9 114.7 117.7 121.5 125.3 125.5
 .125 105.5 106.3 107.0 107.9 112.2 111.6 115.1 117.9 120.9 125.4 125.7
 .160 105.3 106.1 107.4 108.3 112.6 111.8 115.9 117.9 120.5 125.0 125.4
 .200 105.8 106.2 107.3 108.8 113.2 112.9 116.7 118.1 121.4 125.9 125.4
 .250 106.4 106.6 107.2 108.9 113.6 113.4 117.6 118.0 122.5 126.1 124.6
 .315 106.7 106.6 107.7 109.4 114.3 114.2 118.3 119.2 124.3 126.0 122.7
 .400 107.3 106.6 107.5 109.6 114.5 114.6 118.4 119.5 124.7 124.3 120.4
 .500 110.3 107.7 107.9 109.8 114.7 114.7 118.6 120.5 124.4 122.2 118.7
 .630 110.4 110.4 109.3 110.2 115.5 115.3 118.7 121.1 122.9 120.8 116.8
 .800 107.8 110.1 111.0 110.8 115.4 115.4 118.5 120.8 121.3 119.9 115.5
 1.00 106.6 107.9 109.7 111.5 115.3 115.0 117.9 119.7 120.1 118.2 114.0
 1.25 106.7 107.7 108.6 110.7 115.4 114.6 117.1 118.9 119.2 117.1 112.0
 1.60 105.2 106.5 107.8 110.1 113.9 113.3 115.8 117.3 117.4 115.9 111.1
 2.00 103.8 105.9 107.5 109.2 113.2 113.0 114.9 116.8 117.4 115.1 110.5
 2.50 102.7 104.4 106.3 108.2 112.7 112.1 113.8 115.8 116.5 113.9 109.4
 3.15 101.2 103.6 105.7 107.9 112.3 111.9 113.8 115.9 116.2 113.7 108.4
 4.00 100.5 102.3 104.5 106.9 111.5 110.7 113.5 115.8 116.6 113.9 108.7
 5.00 99.2 101.5 103.9 106.5 111.0 111.0 113.6 116.4 117.3 114.9 108.4
 6.30 99.1 102.1 104.2 106.7 111.7 112.2 115.5 118.5 119.4 116.7 110.2
 8.00 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3
 10.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

OAPHL = 172.4

OASPL 119.3 119.8 120.7 122.3 126.7 126.4 129.7 131.8 134.7 136.4 135.3
 PHL 128.4 129.7 131.2 133.1 137.6 137.2 139.9 142.2 143.8 142.9 139.9

200. SIDELINE

PHL 124.4 126.4 128.4 130.4 134.7 133.9 135.8 136.7 136.6 133.8 127.3

370. SIDELINE

PHL 118.4 120.4 122.4 124.4 128.7 127.8 129.7 130.5 130.2 127.8 121.1

800. SIDELINE

PHL 110.2 112.2 114.1 116.0 120.3 119.4 121.1 121.7 122.1 119.6 112.8

2128. SIDELINE

PHL 98.8 100.2 101.6 103.6 107.7 106.6 108.9 109.3 110.2 107.8 101.1

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 28

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 91.0(F) 32.8(C) AREA SQFT 11.89 7.73 SQM 1.105 0.718 MASS FLOW LB/S 427.7 766.1 KG/S 194.0 347.5
 PRES 30.08IN 1.02BAR P.R. 1.58 3.21 1.58 3.21 THRUST,IDL LB*****
 REL H 29.0% TEMP (R) 1471.0 1284. (K) 817.2 713.3 THRUST,HEA LB 0.0 N 0.0
 SDSPD 1150FPS 350M/S RHO LB/FT3 0.031 0.042 KG/M3 0.489 0.676 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1478.5 2105.8 M/S 450.6 641.8 W (MODEL) LB/S 3.0 5.3 KG/S 1.3 2.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	102.6	102.4	102.3	104.4	106.7	106.2	109.3	114.4	120.8	124.3	124.8	158.4
.063	102.7	102.9	103.0	105.0	108.4	107.4	110.2	115.2	121.1	125.0	124.3	158.8
.080	103.5	104.1	104.4	106.0	109.9	109.9	112.4	116.3	121.3	124.5	124.4	158.9
.100	103.5	104.8	105.4	106.7	110.2	109.4	112.6	116.3	120.1	123.3	123.7	158.1
.125	104.0	104.9	105.2	106.6	110.5	109.8	112.9	116.2	119.1	122.5	123.3	157.6
.160	104.0	105.0	105.4	106.8	110.6	109.7	113.2	116.0	118.0	121.3	122.8	156.9
.200	104.3	104.8	105.4	107.4	111.3	110.6	113.9	116.0	118.0	121.7	123.1	157.3
.250	105.3	105.4	105.5	107.4	111.4	110.8	114.2	116.0	118.0	122.2	123.4	157.5
.315	106.2	105.7	105.9	107.7	111.7	111.5	114.6	116.2	119.1	123.8	123.6	158.4
.400	109.4	106.2	105.8	107.6	111.7	111.4	114.6	115.8	119.4	123.7	122.2	158.2
.500	115.2	111.6	107.7	107.7	111.5	111.4	114.8	115.8	120.1	122.2	120.1	158.1
.630	113.0	113.6	112.1	109.8	112.4	111.5	114.6	116.0	120.1	120.3	118.4	157.8
.800	109.9	112.2	112.4	112.1	113.1	111.7	114.3	115.7	119.2	119.3	116.8	157.3
1.00	109.7	109.8	110.4	111.7	113.8	111.5	114.0	115.1	117.8	117.8	115.4	156.4
1.25	109.6	110.6	109.7	110.9	114.1	111.6	113.5	114.6	116.6	116.7	114.1	155.9
1.60	107.7	108.6	109.3	110.3	112.8	110.8	112.3	113.1	114.9	115.3	112.4	154.6
2.00	106.3	108.0	108.4	109.6	111.9	111.0	111.6	112.4	114.6	114.6	111.8	153.9
2.50	104.9	106.5	107.2	108.8	111.3	110.4	110.8	111.5	113.9	113.5	110.6	153.0
3.15	103.6	105.9	106.5	108.4	110.8	109.7	110.7	111.1	113.5	113.3	110.2	152.6
4.00	103.0	104.5	105.4	107.4	110.0	108.5	110.0	110.9	113.4	113.6	110.2	152.1
5.00	101.8	103.7	105.0	106.9	109.7	108.6	109.6	110.8	114.1	114.1	110.3	152.2
6.30	102.0	104.5	105.3	107.1	110.3	109.5	111.1	112.8	116.0	116.0	112.0	153.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 170.2

OASPL 121.3 121.3 121.0 121.9 124.8 123.8 126.3 128.3 131.8 134.5 134.3
 PNL 130.5 131.4 131.7 133.2 135.9 134.8 136.5 137.7 140.7 141.8 140.1

200. SIDELINE

PNL 126.6 128.1 128.9 130.5 133.0 131.5 132.5 132.5 133.6 132.5 127.4

370. SIDELINE

PNL 120.8 122.1 122.8 124.4 127.0 125.4 126.3 126.3 127.3 126.4 121.2

800. SIDELINE

PNL 112.9 113.8 114.5 116.0 118.6 117.1 117.8 117.7 118.6 118.1 112.7

2128. SIDELINE

PNL 101.4 102.0 102.1 103.3 106.0 104.2 105.4 105.5 106.5 106.1 100.4

20195F Q1261 VCE MODEL JET PRI/FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/26/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION 29

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 88.0(F) 31.1(C) AREA SQFT 11.89 7.73 SQM 1.105 0.718 MASS FLOW LB/S 825.1 457.9 KG/S 374.3 207.7
 PRES 29.82IN 1.01BAR P.R. 2.39 2.40 2.39 2.40 THRUST,IDL LB ***** H *****
 REL H 34.0% TEMP (R) 1466.0 1994. (K) 814.4 1107.8 THRUST,MEA LB 0.0 0.0 H 0.0
 SDSPD 1147FPS 349M/S RHO LB/FT3 0.034 0.025 KG/M3 0.546 0.396 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1984.1 2324.3 M/S 604.7 708.5 W (MODEL) LB/S 5.7 3.2 KG/S 2.6 1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ) 60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	105.3	105.4	105.6	106.9	107.7	109.2	111.9	118.7	125.0	128.3	128.2	162.2
.063	105.8	105.7	106.1	107.8	109.1	110.4	113.2	119.4	126.5	129.3	128.1	163.2
.080	105.9	106.6	107.0	108.4	110.2	112.9	115.1	121.2	128.3	129.7	127.9	164.2
.100	106.3	107.6	108.0	108.8	110.4	112.9	115.7	121.6	128.9	129.7	127.2	164.4
.125	105.9	106.9	107.6	108.7	110.7	113.0	116.1	121.4	129.1	130.0	126.5	164.5
.160	106.9	107.0	108.0	108.9	110.6	112.9	116.3	121.2	129.1	128.8	124.7	164.0
.200	111.4	109.9	108.9	109.6	111.2	113.4	116.9	121.1	128.7	127.7	123.1	163.5
.250	114.6	113.9	112.2	110.6	111.3	113.8	116.9	120.9	127.6	125.7	121.4	162.5
.315	113.1	113.8	114.3	114.0	112.3	114.2	117.4	120.5	126.6	124.1	120.1	161.9
.400	110.8	111.0	112.1	114.1	114.0	114.7	117.0	119.8	125.2	122.6	118.2	160.8
.500	107.6	109.8	110.1	112.3	114.2	115.5	117.1	119.3	124.2	121.2	116.5	160.0
.630	107.5	108.7	109.5	111.2	112.8	115.8	117.3	119.0	122.9	120.1	114.7	159.2
.800	106.0	107.4	108.6	110.7	112.2	115.0	116.9	118.2	121.5	118.2	113.4	158.1
1.00	104.8	106.2	107.3	109.6	111.4	113.9	116.3	117.5	120.1	116.5	111.6	157.0
1.25	103.4	105.1	106.2	108.7	110.7	113.0	115.0	116.5	119.0	115.5	109.9	156.0
1.60	101.5	103.0	104.6	107.8	108.9	111.6	113.2	114.5	117.1	113.7	107.9	154.2
2.00	99.9	101.9	103.6	106.4	108.2	110.4	111.9	113.9	117.0	112.9	107.2	153.4
2.50	98.3	100.1	101.9	104.8	106.4	109.0	110.5	112.5	115.9	111.7	105.7	152.1
3.15	96.8	99.1	101.0	104.0	105.7	108.4	110.2	112.1	115.4	111.3	105.3	151.6
4.00	95.8	97.5	99.7	102.7	104.2	106.9	109.3	111.7	115.4	111.7	106.1	151.2
5.00	94.7	96.6	98.6	101.4	103.6	106.5	108.9	111.7	116.2	112.4	107.1	151.5
6.30	95.4	97.5	98.7	101.1	103.5	107.2	110.3	113.6	118.1	114.4	109.8	153.1
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 174.1

OASPL 121.1 121.3 121.6 122.8 123.9 126.1 128.5 132.1 138.5 138.5 135.9
 PHL 128.0 128.7 129.5 131.3 132.7 135.2 137.4 140.0 144.6 142.6 138.3

200. SIDELINE

PHL 124.1 125.6 126.8 128.6 129.9 131.9 133.3 134.8 137.7 133.6 125.8

370. SIDELINE

PHL 118.4 119.9 121.1 122.8 123.9 125.9 127.2 128.6 131.8 127.6 119.7

500. SIDELINE

PHL 110.9 112.3 113.5 115.2 116.0 117.7 118.9 120.4 123.9 119.7 111.5

2128. SIDELINE

PHL 100.2 101.5 102.7 104.2 104.9 106.3 107.5 109.1 112.7 108.5 100.2

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 30

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	656.6	420.5	KG/S	297.9	190.7
PRES	30.07IN	1.02BAR	P.R.		2.00	1.99		2.00	1.99	THRUST,IDL	LB	*****870879.4		*****		
REL H	29.0Z		TEMP	(R)	1571.0	1580.	(K)	872.8	877.8	THRUST,MEA	LB		0.0	H		0.0
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.030	0.030	KG/M3	0.485	0.482	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1849.4	1852.5	M/S	563.7	564.7	W (MODEL)	LB/S	4.6	2.9	KG/S	2.1	1.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	101.7	101.1	101.8	103.5	106.0	106.0	109.3	114.9	121.3	124.4	124.5	158.5
.063	101.9	102.2	102.9	104.2	107.8	107.1	110.2	116.2	122.9	125.5	124.2	159.5
.080	102.2	103.1	103.5	105.1	109.3	110.0	112.3	117.7	124.4	125.8	124.5	160.5
.100	102.9	104.6	105.0	106.0	109.9	109.8	112.9	117.8	124.8	126.0	124.3	160.7
.125	103.4	103.6	104.4	105.6	109.8	110.0	113.2	117.5	124.6	126.2	124.1	160.7
.160	102.1	103.1	104.2	105.5	109.6	109.5	113.3	117.0	123.4	124.9	122.5	159.6
.200	101.9	102.6	103.8	105.7	109.7	110.0	113.5	116.7	122.2	123.3	120.4	158.4
.250	102.1	102.5	103.6	105.3	109.9	110.2	113.6	116.4	120.9	121.0	118.1	157.1
.315	102.2	102.3	103.6	105.6	110.0	110.3	113.5	115.6	119.5	118.8	115.7	155.9
.400	102.4	101.9	103.3	105.2	109.7	110.2	113.1	114.6	117.7	117.0	113.8	154.7
.500	101.9	101.9	103.0	105.1	109.5	109.8	112.7	113.7	116.0	115.3	112.4	153.6
.630	100.6	101.5	102.9	105.1	110.0	109.8	112.1	112.8	114.5	114.0	111.6	152.9
.800	100.2	101.8	103.0	105.0	109.8	109.6	111.4	111.6	113.4	113.9	111.7	152.3
1.00	100.3	101.1	102.1	104.2	108.7	108.8	110.7	110.3	112.0	112.1	110.2	151.2
1.25	98.8	99.9	101.5	103.5	107.9	108.0	109.7	109.1	110.4	110.6	108.3	150.0
1.60	97.2	98.4	99.9	102.8	106.1	106.3	108.0	107.1	108.0	108.4	105.8	148.1
2.00	95.9	97.4	99.6	101.4	104.9	105.3	106.6	106.5	107.6	107.4	104.8	147.1
2.50	94.4	96.0	98.0	100.2	104.1	104.1	105.3	104.9	105.9	105.9	102.8	145.8
3.15	93.1	95.3	97.1	99.6	103.4	103.5	104.7	104.0	104.9	105.1	102.0	145.0
4.00	92.2	93.6	96.2	98.5	102.3	102.1	103.3	103.0	104.5	105.3	102.0	144.1
5.00	91.0	92.9	95.5	97.4	101.5	101.7	103.1	102.6	105.3	106.2	102.9	144.1
6.30	91.5	93.7	95.7	97.3	101.7	102.6	104.2	104.2	107.7	108.4	105.6	145.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 169.5

OASPL 113.9 114.5 115.6 117.4 121.6 121.7 124.5 127.4 133.0 134.4 132.7
 PHL 121.4 122.7 124.3 126.4 130.4 130.5 132.5 133.3 137.0 137.7 135.4

200. SIDELINE

PHL 117.4 119.4 121.4 123.7 127.6 127.3 128.4 128.2 130.4 128.8 122.8

370. SIDELINE

PHL 111.5 113.4 115.5 117.7 121.6 121.3 122.4 122.4 124.6 122.9 116.8

800. SIDELINE

PHL 103.6 105.3 107.5 109.6 113.5 113.1 114.4 114.7 116.9 115.0 108.6

2128. SIDELINE

PHL 92.3 93.8 95.7 97.9 102.0 101.7 103.3 103.7 106.0 104.0 97.4

ORIGINAL PAGE IS
OF POOR QUALITY

BSO

20192F Q1472 VCE MODEL NOZ. PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/18/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION 38

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	89.0(F)	31.7(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	406.1	463.7	KG/S	184.2	210.3			
PRES	30.18IN	1.02BAR	P.R.		1.39	2.41		1.39	2.41	THRUST,IDL	LB	*****	*****	H	*****	*****			
REL H	17.0Z		TEMP	(R)	1477.0	2004.	(K)	820.6	1113.3	THRUST,MEA	LB		0.0	H		0.0			
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.029	0.025	KG/M3	0.472	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1270.4	2334.9	M/S	387.2	711.7	W (MODEL)	LB/S	2.8	3.2	KG/S	1.3	1.5			

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	100.0	99.6	100.3	101.5	102.5	104.3	106.9	112.3	116.6	120.3	119.9	154.4
.063	99.3	100.0	100.5	102.0	103.5	105.0	107.5	112.4	115.9	119.3	119.1	153.8
.080	99.5	100.6	101.3	102.6	104.5	106.5	109.0	113.1	115.6	117.5	117.3	153.2
.100	99.1	101.0	101.9	103.0	104.4	106.6	109.5	113.1	114.4	115.3	115.4	152.3
.125	100.1	101.0	101.9	103.3	105.0	107.0	109.9	113.1	113.4	114.1	114.2	151.8
.160	99.5	101.2	102.5	103.8	105.4	107.4	110.7	112.9	112.6	112.9	113.5	151.6
.200	100.7	101.8	102.7	104.5	106.2	108.4	111.6	113.1	112.7	113.9	114.2	152.1
.250	101.8	102.5	103.3	105.0	107.0	109.2	112.5	113.4	113.2	115.4	115.5	153.0
.315	102.7	103.0	103.9	105.9	107.7	110.1	113.3	114.0	114.6	117.5	116.9	154.2
.400	103.3	102.9	103.7	105.7	107.9	110.4	113.3	114.4	115.9	118.8	117.1	154.8
.500	103.0	103.1	103.8	105.9	108.3	110.9	113.7	115.2	117.4	119.0	115.9	155.3
.630	101.6	102.6	103.8	106.1	108.5	111.2	113.7	115.7	118.4	117.8	113.7	155.4
.800	100.5	102.3	103.7	106.0	108.6	111.3	113.2	115.5	117.9	116.4	112.4	154.8
1.00	101.7	102.0	103.2	105.6	108.3	110.7	112.8	114.4	116.1	114.4	110.5	153.7
1.25	102.8	103.1	103.2	105.7	108.3	110.4	112.1	113.9	114.9	113.4	109.1	153.0
1.60	100.9	102.8	103.5	105.8	107.4	109.5	111.3	113.1	113.2	111.9	107.5	152.0
2.00	99.4	101.9	103.8	106.1	107.7	109.8	111.1	113.2	113.6	111.6	107.3	152.0
2.50	99.4	101.1	103.2	106.3	107.9	109.7	110.9	112.7	113.3	111.1	106.9	151.8
3.15	99.1	101.6	103.5	107.4	108.6	110.4	111.6	113.3	113.5	111.0	106.7	152.3
4.00	99.5	101.0	103.4	107.8	108.4	110.1	111.5	113.3	113.6	111.5	107.1	152.3
5.00	99.2	100.8	103.7	108.8	108.6	110.7	111.5	113.6	114.3	112.0	106.9	152.8
6.30	99.4	101.4	103.8	109.6	108.9	111.1	112.8	115.1	115.7	112.9	107.6	153.7
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 166.8

OASPL 114.2 115.2 116.5 119.3 120.8 123.0 125.2 127.2 128.6 129.3 127.9
 PNL 124.9 126.5 128.1 131.6 132.7 134.7 136.5 138.4 139.1 138.1 134.8

200. SIDELINE

PNL 120.8 123.2 125.3 128.8 129.9 131.4 132.4 133.1 132.1 128.5 121.9

370. SIDELINE

PNL 114.6 117.1 119.2 122.6 123.8 125.3 126.2 126.8 125.7 122.0 115.6

800. SIDELINE

PNL 106.0 108.5 110.6 114.0 115.2 116.7 117.5 117.8 116.4 113.5 106.8

2128. SIDELINE

PNL 93.4 95.5 97.5 100.3 101.7 103.1 104.2 104.5 103.6 101.0 94.0

20191F Q1471 VCE MODEL NOZ. PRI/FAN W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION .01E

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	518.4	459.4	KG/S	235.1	208.4
PRES	30.33IN	1.03BAR	P.R.		1.60	2.41		1.60	2.41	THRUST,IDL	LB	*****	*****	*****	*****	*****
REL H	17.0%		TEMP	(R)	1468.0	1981.	(K)	815.6	1100.6	THRUST,MEA	LB	0.0		N		0.0
SDSFD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.492	0.399	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1490.6	2319.6	M/S	454.3	707.0	H (MODEL)	LB/S	3.6	3.2	KG/S	1.6	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	102.0	101.7	102.2	103.6	104.4	106.4	109.2	113.7	119.6	123.3	122.8	157.2
.063	101.6	102.4	103.0	104.5	105.5	107.1	109.7	114.4	119.5	123.5	122.8	157.4
.080	104.1	104.6	105.2	106.6	107.4	109.7	111.9	115.3	119.8	124.4	124.0	158.4
.100	102.4	104.0	105.1	106.4	107.3	109.1	112.1	114.9	118.1	121.5	121.1	156.4
.125	102.7	103.6	104.6	106.1	107.3	109.5	112.2	114.8	117.0	120.2	119.6	155.5
.160	101.5	103.5	104.8	106.2	107.6	109.6	112.7	114.6	116.4	118.2	118.2	154.7
.200	103.1	103.9	105.3	107.2	108.3	110.6	113.6	114.8	116.4	118.3	117.7	155.0
.250	103.4	104.4	105.5	107.3	108.6	111.1	114.2	115.3	116.9	118.5	116.8	155.4
.315	104.1	104.8	106.0	107.9	109.3	111.9	114.8	115.6	117.3	118.7	116.4	155.8
.400	105.3	105.0	106.0	107.8	109.8	112.3	114.8	115.4	117.7	118.1	114.5	155.7
.500	105.9	105.4	106.5	108.9	110.9	113.2	114.9	115.7	117.4	117.2	113.2	155.7
.630	105.4	106.0	107.3	109.5	111.8	114.4	115.4	115.7	116.9	115.7	111.3	155.8
.800	105.2	107.1	108.4	110.1	113.2	115.4	117.3	117.7	117.8	115.2	111.0	156.9
1.00	105.1	105.9	106.7	109.0	111.8	113.7	116.9	117.3	116.1	113.4	109.4	155.9
1.25	104.0	104.7	105.9	107.8	110.9	112.4	114.4	115.3	114.3	112.1	107.8	154.2
1.60	102.6	104.0	105.4	107.8	110.6	111.9	113.8	113.6	112.5	110.5	105.3	153.2
2.00	101.6	103.7	105.8	107.5	110.9	112.0	113.9	114.0	112.9	110.0	104.8	153.3
2.50	101.6	103.3	105.8	106.8	111.0	112.2	113.5	113.9	112.7	109.3	103.5	153.1
3.15	101.4	103.8	106.1	106.1	111.6	112.6	114.1	114.0	112.6	108.7	102.9	153.4
4.00	102.0	103.2	105.7	104.5	111.4	112.0	114.0	114.1	112.9	109.5	103.0	153.2
5.00	101.7	102.9	106.0	102.6	111.8	112.8	113.9	114.5	113.6	110.0	103.1	153.6
6.30	101.4	103.3	105.8	100.0	111.8	113.3	115.1	115.7	114.6	110.7	104.2	154.3
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 168.9

OASPL 116.8 117.8 119.2 120.5 123.6 125.4 127.6 128.6 130.1 131.8 130.7
 PNL 127.4 128.8 130.7 131.1 135.7 137.0 138.9 139.4 139.3 137.7 134.0

200. SIDELINE

PNL 123.3 125.5 127.8 128.4 132.8 133.7 134.8 134.1 132.2 128.3 121.4

370. SIDELINE

PNL 117.1 119.4 121.8 122.4 126.7 127.6 128.6 127.8 125.9 122.1 115.2

800. SIDELINE

PNL 108.4 110.8 113.2 114.2 118.1 119.0 119.9 118.9 116.9 113.8 106.9

2128. SIDELINE

PNL 95.9 97.7 100.0 101.7 104.6 105.6 106.6 105.8 104.7 101.9 95.5

B3C

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION 03E

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 87.0(F) 30.6(C) AREA SQFT 11.89 7.73 SQM 1.105 0.718 MASS FLOW LB/S 528.5 496.8 KG/S 239.7 225.3
 PRES 30.33IN 1.03BAR P.R. 1.60 2.41 1.60 2.41 THRUST,IDL LB *****
 REL H 16.0% TEMP (R) 1485.0 1694. (K) 825.0 941.1 THRUST,MEA LB 0.0 H 0.0
 SDSPD 1146FPS 349M/S RHO LB/FT3 0.030 0.029 KG/M3 0.486 0.470 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1500.2 2141.1 M/S 457.3 652.6 W (MODEL) LB/S 3.7 3.4 KG/S 1.7 1.6

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)
 BAND
 CENTER FREQ MICROPHONE ANGLES IN DEGREES POWER
 (KHZ) 60 70 80 90 100 110 120 130 140 150 160 IE-12W
 .050 101.6 101.3 101.9 103.3 103.9 105.9 108.7 113.4 119.5 123.2 122.6 157.0
 .063 101.3 102.0 102.7 104.3 105.3 107.0 109.4 114.0 119.5 123.4 122.7 157.3
 .080 104.1 104.6 105.0 105.9 107.3 109.7 111.5 115.1 120.2 124.6 123.9 158.5
 .100 102.2 103.6 104.8 106.0 106.9 108.7 111.5 114.5 118.2 121.4 120.9 156.2
 .125 102.4 103.1 104.0 105.5 106.8 108.0 111.6 114.3 117.0 120.1 119.4 155.3
 .160 101.3 103.2 104.4 105.6 107.0 109.1 112.0 114.3 116.2 117.9 117.7 154.4
 .200 102.4 103.3 104.7 106.6 107.6 109.9 112.8 114.4 115.9 117.7 117.0 154.4
 .250 103.0 103.7 105.0 106.6 107.9 110.2 113.1 114.6 116.1 117.6 116.1 154.5
 .315 103.4 104.1 105.2 107.1 108.5 110.8 113.7 114.6 116.2 117.8 115.7 154.8
 .400 104.6 104.3 105.2 107.0 108.9 111.1 113.5 114.2 116.3 117.1 114.0 154.5
 .500 105.2 104.5 105.7 107.7 109.7 112.0 113.5 114.2 115.7 116.3 112.9 154.4
 .630 104.4 104.7 106.1 108.1 110.3 112.8 114.3 113.9 115.3 115.0 110.9 154.4
 .800 103.9 105.5 105.9 108.3 111.4 113.3 116.0 115.5 116.3 114.4 110.3 155.3
 1.00 103.9 104.5 105.6 107.2 110.5 112.1 115.3 115.7 115.4 112.7 108.8 154.6
 1.25 104.1 104.4 105.1 106.2 109.6 111.1 113.0 114.0 113.3 111.4 107.4 153.0
 1.60 102.7 103.8 105.1 106.1 109.0 110.3 112.3 112.0 111.5 109.9 105.1 151.9
 2.00 101.4 103.4 105.5 105.7 109.8 110.6 112.3 112.3 111.6 109.4 104.5 152.0
 2.50 100.9 102.5 104.9 104.6 109.7 110.5 111.8 112.1 111.4 108.2 103.0 151.6
 3.15 100.4 102.3 104.7 103.7 110.2 110.9 112.3 112.1 111.1 107.8 102.1 151.7
 4.00 100.7 101.9 104.6 102.0 109.7 110.4 112.1 112.1 111.3 106.5 102.3 151.5
 5.00 100.1 101.3 104.3 100.0 109.8 110.6 111.9 112.3 111.7 108.9 102.3 151.6
 6.30 99.5 101.3 103.7 97.2 109.5 110.8 112.5 112.9 112.4 109.3 103.0 151.9
 8.00 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.3 55.8
 10.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
 OAPNL = 168.0

OASPL 116.1 116.9 118.3 119.2 122.4 124.0 126.2 127.3 129.4 131.6 130.4
 PNL 126.5 127.7 129.6 129.3 134.3 135.5 137.3 137.7 138.0 137.0 133.5

200. SIDELINE

PNL 122.4 124.4 126.7 126.6 131.4 132.2 133.2 132.5 131.0 127.5 120.9

370. SIDELINE

PNL 116.2 118.3 120.7 120.6 125.3 126.1 127.1 126.2 124.7 121.4 114.8

800. SIDELINE

PNL 107.7 109.8 112.2 112.5 116.8 117.5 118.4 117.4 115.8 113.1 106.6

2128. SIDELINE

PNL 95.2 97.0 99.3 100.2 103.4 104.2 105.3 104.4 103.7 101.4 95.2

20191F Q1471 VCE MODEL NOZ. PRI/FAN W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION 04E

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	517.0	578.9	KG/S	234.5	262.6
PRES	30.33IN	1.03BAR	P.R.		1.60	2.41		1.60	2.41	THRUST,IDL	LB	*****	*****	N	*****	*****
REL H	17.0%		TEMP	(R)	1446.0	1267.	(K)	803.3	703.9	THRUST,NEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.040	KG/M3	0.500	0.636	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1485.7	1849.1	M/S	452.8	563.6	W (MODEL)	LB/S	3.6	4.0	KG/S	1.6	1.8

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	100.3	100.1	100.7	102.1	102.6	104.7	107.3	112.4	118.1	122.0	121.7	155.9
.063	100.3	100.6	101.4	102.9	103.9	105.7	108.0	112.8	118.4	122.3	121.5	156.1
.080	103.5	103.6	104.2	105.0	106.1	108.8	110.4	114.2	119.5	123.7	123.1	157.6
.100	100.9	102.3	103.4	104.7	105.3	107.4	110.0	113.3	117.2	120.2	119.8	155.0
.125	100.9	101.7	102.7	104.2	105.2	107.3	109.9	112.9	115.8	118.7	118.0	153.9
.160	99.8	101.5	102.8	103.8	105.0	107.2	110.1	112.7	114.9	116.0	115.9	152.7
.200	100.7	101.5	103.1	104.7	105.6	107.9	110.7	112.9	114.4	115.4	114.7	152.6
.250	101.4	101.9	103.4	104.7	105.7	107.9	110.7	112.8	114.0	115.1	114.0	152.4
.315	101.8	102.6	103.6	104.9	106.3	108.3	111.0	112.6	113.4	114.9	113.8	152.3
.400	102.8	102.5	103.3	104.9	106.4	108.5	110.6	111.8	113.0	114.6	112.5	151.9
.500	102.8	102.1	103.2	105.0	106.9	108.8	111.1	111.5	112.0	113.4	111.0	151.6
.630	101.5	101.7	103.3	104.8	106.7	109.1	111.6	111.1	111.1	112.0	109.1	151.2
.800	100.9	102.0	103.3	104.5	106.9	108.8	112.0	111.7	111.6	111.5	108.0	151.3
1.00	102.3	102.2	102.7	103.7	106.2	107.7	110.7	111.5	111.7	110.0	106.4	150.6
1.25	104.2	104.2	104.2	103.8	106.1	107.2	109.3	110.4	110.1	108.7	105.0	149.9
1.60	102.0	103.1	104.8	104.5	105.7	106.3	108.3	108.0	107.3	106.9	102.6	148.6
2.00	100.4	102.3	104.5	104.5	106.8	108.7	108.3	108.5	107.5	106.0	101.9	148.7
2.50	100.0	101.3	103.8	103.3	107.2	107.1	108.1	108.2	107.2	105.1	100.3	148.4
3.15	99.5	101.2	103.6	102.3	107.7	107.8	108.8	108.6	107.2	104.7	99.7	148.7
4.00	99.6	100.4	103.3	100.5	107.3	107.5	108.7	108.5	107.3	105.4	100.5	148.5
5.00	99.1	100.1	103.3	98.6	107.5	107.8	108.5	108.7	107.8	106.0	100.8	148.7
6.30	98.5	100.2	102.7	95.9	107.3	108.0	109.1	109.4	108.4	106.9	102.1	148.9
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OASPL = 165.9

OASPL 114.7 115.3 116.8 117.2 119.7 121.1 123.3 124.9 127.4 130.0 129.2
 PHL 125.2 126.3 128.3 127.5 131.7 132.4 134.0 134.6 134.6 134.4 131.9

200. SIDELINE

PHL 121.1 123.0 125.4 124.9 128.8 129.1 130.0 129.4 127.7 125.0 119.4

370. SIDELINE

PHL 115.0 116.9 119.3 118.9 122.7 123.0 123.8 123.1 121.4 119.0 113.3

800. SIDELINE

PHL 106.5 108.4 110.8 110.7 114.2 114.5 115.2 114.4 112.6 111.0 105.1

2128. SIDELINE

PHL 93.6 95.6 97.9 98.4 100.8 101.1 102.2 101.8 100.8 99.6 93.8

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 12.0/1 RUN NUMBER 2019 CONDITION 19F

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	694.1	443.5	KG/S	314.8	201.2
PRES	30.33IN	1.03BAR	P.R.		2.07	2.12		2.07	2.12	THRUST,IDL	LB	*****969452.4		*****969452.4		
REL H	20.0Z		TEMP	(R)	1557.0	1627.	(K)	865.0	903.9	THRUST,MEA	LB	0.0	0.0	N	0.0	0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.494	0.475	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1885.4	1955.1	M/S	574.7	595.9	W (MODEL)	LB/S	4.8	3.1	KG/S	2.2	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	103.7	103.5	104.0	105.1	105.7	108.2	110.7	116.8	123.2	126.7	125.8	160.4
.063	103.8	103.9	104.7	106.1	107.1	108.9	111.8	118.1	124.7	127.8	125.9	161.5
.080	105.0	105.3	106.1	107.5	108.9	111.5	114.1	120.2	126.9	128.4	125.9	162.8
.100	105.0	106.1	107.2	107.9	108.9	111.6	114.6	120.1	126.7	127.8	125.1	162.5
.125	104.3	105.2	106.5	107.5	108.9	111.4	114.9	119.6	126.4	127.5	124.1	162.1
.160	103.5	105.0	106.3	107.2	108.6	111.5	115.0	119.3	125.6	125.7	122.1	161.0
.200	104.3	104.8	106.2	107.9	109.2	112.1	115.8	119.4	124.7	124.6	119.8	160.3
.250	104.5	105.0	106.3	107.7	109.1	112.1	115.9	119.0	123.3	122.2	117.0	159.0
.315	104.9	105.2	106.3	108.0	109.5	112.2	115.9	118.4	121.9	119.9	115.3	157.9
.400	105.9	105.3	106.0	107.8	109.7	112.2	115.4	117.3	120.2	118.0	112.7	156.7
.500	105.2	105.1	105.9	107.9	109.8	112.2	114.9	116.4	118.3	115.9	110.8	155.6
.630	103.8	104.3	105.5	107.7	109.7	112.3	114.5	115.1	116.4	113.8	108.2	154.5
.800	102.5	104.1	105.6	107.2	109.8	111.9	114.7	114.4	115.1	112.4	106.6	153.9
1.00	102.3	103.3	104.3	106.5	109.0	110.8	114.0	113.9	114.0	110.2	104.8	153.1
1.25	101.1	102.1	103.5	105.6	108.3	109.9	112.1	112.7	112.5	109.1	103.2	151.8
1.60	99.3	100.3	102.0	105.0	107.2	108.4	110.5	110.4	110.2	107.1	100.8	150.0
2.00	98.3	99.8	101.7	104.3	107.1	108.0	109.8	110.1	110.0	106.2	99.9	149.5
2.50	98.0	99.5	101.5	104.0	106.6	107.8	109.4	109.7	109.4	105.3	98.6	149.1
3.15	97.7	99.4	101.4	104.3	106.7	108.0	109.6	109.7	109.0	104.9	98.4	149.1
4.00	98.1	98.8	101.2	103.9	106.2	107.4	109.3	109.4	109.2	105.6	99.9	148.9
5.00	97.5	98.5	101.1	103.8	106.4	107.6	108.9	109.5	110.0	106.9	101.5	149.1
6.30	97.1	98.7	100.8	103.2	106.0	107.8	109.7	110.2	111.3	108.5	103.8	149.7
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 171.4

OASPL 116.4 117.0 118.2 119.9 121.7 124.0 126.9 130.0 135.2 136.1 133.3
 FHL 125.0 126.0 127.7 130.0 132.2 133.9 136.1 137.4 139.6 138.5 134.3

200. SIDELINE

PHL 121.0 122.7 124.9 127.3 129.4 130.7 132.1 132.2 133.0 129.6 121.8

370. SIDELINE

PHL 114.8 116.7 118.8 121.3 123.3 124.6 126.0 126.1 127.1 123.7 115.8

800. SIDELINE

PHL 106.7 108.4 110.5 113.0 115.0 116.2 117.5 117.9 119.3 115.9 107.9

2128. SIDELINE

PHL 95.3 96.7 98.5 100.6 102.4 104.0 105.9 106.6 108.4 105.1 97.0

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 01 ET

***** PRIMARY FAN PRIMARY FAN PRIMARY FAN *****

TEST DAY CONDITIONS										MASS FLOW LB/S 506.9 456.5 KG/S 229.9 207.1			
TEMP	85.0(F)	31.1(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	THRUST,IDL	LB23475.5	32939.4	4104424146744
PRES	29.75IN	1.01BAR	P.R.		1.59	2.41		1.59	2.41	THRUST,MEA	LB	0.0	N 0.0
REL H	36.0Z		TEMP	(R)	1474.0	1990.	(K)	818.9	1105.6	AREA (MOD)	SQFT	0.08	0.05 SQM 0.008 0.005
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.489	0.328	W (MODEL)	LB/S	3.5	3.2 KG/S 1.6 1.4
			VEL	FPS	1491.3	2327.1	M/S	454.5	709.3				

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)														POWER
BAND	MICROPHONE ANGLES IN DEGREES													1E-12W
CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160			

.050	101.7	101.3	101.8	103.3	105.9	106.1	108.3	113.0	118.5	122.2	123.5		156.5
.063	101.5	101.9	102.6	104.0	107.1	106.4	103.8	113.2	118.3	122.5	122.6		156.5
.080	104.2	104.8	104.9	105.1	109.3	109.2	110.8	114.0	118.6	123.5	124.6		157.7
.100	101.9	103.6	104.2	105.4	108.8	108.3	110.8	113.7	116.7	120.0	121.5		155.4
.125	102.4	103.2	103.6	105.2	108.7	108.6	110.8	113.6	115.9	118.6	119.8		154.5
.160	101.5	103.2	104.0	105.2	108.7	108.9	111.4	113.4	115.0	116.7	118.4		153.8
.200	102.4	103.1	104.5	106.3	109.6	109.6	111.9	113.4	114.6	116.8	118.0		153.9
.250	103.2	103.8	104.8	105.4	109.9	110.0	112.9	113.7	114.9	117.0	117.5		154.2
.315	103.7	104.4	105.2	106.9	110.6	111.0	113.2	113.8	115.6	117.5	117.2		154.7
.400	105.4	104.8	105.4	107.5	111.2	111.9	113.2	114.2	116.4	117.7	116.7		155.1
.500	107.1	105.2	107.0	111.1	114.2	115.5	113.7	115.6	118.8	120.8	119.5		157.6
.630	105.3	105.7	108.2	110.3	114.4	114.8	115.4	115.5	116.8	116.5	114.9		155.4
.800	105.8	108.2	110.5	112.5	116.4	116.7	118.6	118.6	119.1	117.4	115.3		158.6
1.00	104.7	105.4	105.9	108.1	112.1	112.7	114.9	115.3	114.9	114.3	112.4		154.6
1.25	103.3	104.0	104.9	107.0	111.2	111.5	112.9	113.3	113.8	113.0	110.6		153.4
1.60	101.4	102.7	104.0	106.6	109.8	110.8	112.4	112.3	112.0	111.3	107.8		152.3
2.00	99.3	101.2	103.1	105.5	108.7	109.7	111.0	111.5	111.5	110.1	106.7		151.2
2.50	97.6	99.1	101.3	104.1	108.1	108.7	110.1	110.2	110.4	108.7	104.6		150.1
3.15	96.0	98.1	100.3	103.3	107.2	108.0	109.8	109.9	109.8	107.9	103.1		149.5
4.00	95.1	95.5	98.9	102.0	105.9	106.8	108.9	109.5	109.5	107.9	102.9		148.7
5.00	93.3	95.1	97.8	101.1	105.1	106.7	108.7	109.5	109.8	108.1	102.2		148.6
6.30	92.9	94.9	97.5	100.2	105.2	107.4	110.0	110.9	111.4	109.5	103.1		149.6
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3		55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		3.0

GAPWL = 168.1

OASPL 116.6 117.0 118.1 120.3 124.0 124.5 126.0 127.1 129.1 131.2 131.5
 PNL 124.9 125.5 127.1 129.7 133.4 134.2 135.9 136.5 137.3 137.7 136.1

200. SIDELINE
 PNL 121.0 122.3 124.3 127.0 130.6 130.9 131.8 131.3 130.4 128.6 123.5

370. SIDELINE
 PNL 115.3 116.4 118.5 121.0 124.7 124.8 125.7 125.1 124.2 122.5 117.3

800. SIDELINE
 PNL 107.5 108.5 110.7 113.1 116.7 116.7 117.5 116.9 116.1 114.3 108.8

2128. SIDELINE
 PNL 96.2 97.1 99.3 101.6 105.2 105.1 105.7 104.8 104.1 102.3 96.7

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OF POOR QUALITY

B-36

C-2 1

11

20189F Q1259 VCE FRI/FAN NOZ W/ EJECTOR 2/M PCS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 03ET

TEST DAY CONDITIONS		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN	
TEMP	87.0(F) 30.6(C)	AREA	SQFT	11.89	7.73	SCM	1.105	0.718	MASS FLOW LB/S
FRES	29.75IN 1.01BAR	P.R.		1.60	2.41		1.60	2.41	505.4 493.9 KG/S
PEL H	37.3%	TEMP	(R)	1469.0	1697.	(K)	816.1	942.8	229.3 214.0
SDSPD	1146FPS 349M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.491	0.469	THRUST,IDL
		VEL	FPS	1492.2	2145.3	M/S	454.8	653.9	1523423.2 32906.9
									N104191146377
									THRUST,MEA
									LB
									0.0 0.0
									N
									0.0
									AREA (MOD) SQFT
									0.08 0.05
									SCM
									0.008 0.005
									W (MODEL) LB/S
									3.5 3.4
									KG/S
									1.6 1.6

FAA DAY		1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS											(SCALED ENGINE)	
BAND		MICROPHONE ANGLES IN DEGREES											FCWER	
CENTER FREQ		60	70	80	90	100	110	120	130	140	150	160	1E-12W	
.050	101.4	101.0	101.4	103.0	105.6	106.0	108.1	112.9	118.6	122.1	123.1		156.4	
.053	100.9	101.5	102.0	103.6	106.7	106.3	109.5	112.8	118.2	122.2	122.1		156.2	
.059	105.4	105.6	105.3	105.4	110.0	109.8	110.8	113.9	119.0	124.4	125.0		159.3	
.100	101.5	103.1	103.8	105.0	109.4	108.1	110.5	113.4	116.9	119.8	120.8		155.2	
.125	102.0	102.7	103.1	104.6	108.2	108.2	110.2	113.3	115.9	118.3	119.2		154.2	
.160	100.9	102.6	103.5	104.6	109.4	108.3	110.7	113.1	114.8	116.2	117.4		153.3	
.200	102.0	102.6	104.0	105.6	109.0	109.0	111.2	113.0	114.3	115.8	116.9		153.2	
.250	102.8	103.2	104.3	106.0	109.4	109.5	111.9	113.1	114.3	116.0	116.3		153.5	
.315	103.4	104.0	104.8	106.4	110.1	110.4	112.3	113.2	114.5	116.0	116.1		153.7	
.400	106.1	104.9	105.5	108.6	112.0	112.4	112.4	113.4	116.2	117.5	118.4		155.1	
.500	110.4	106.5	107.8	113.7	116.9	117.2	113.7	114.2	119.9	121.8	124.0		159.0	
.630	105.0	105.7	106.5	109.7	112.6	112.9	114.0	113.5	114.6	115.0	114.8		154.7	
.800	105.1	106.5	107.3	109.1	113.2	113.6	116.0	115.5	115.8	115.0	113.7		155.6	
1.00	104.9	105.0	105.1	107.1	110.8	111.3	113.7	113.9	113.6	113.5	113.4		155.7	
1.25	103.6	104.2	104.6	106.2	110.0	110.2	111.7	111.8	112.3	112.0	110.9		152.3	
1.60	101.3	102.4	103.5	105.8	109.1	108.9	110.5	110.2	110.3	110.4	109.7		150.7	
2.00	99.0	100.7	102.6	104.8	107.3	108.2	109.4	109.6	110.0	109.4	107.8		149.9	
2.50	97.1	98.5	100.6	103.1	106.6	107.1	108.2	108.2	108.6	107.9	105.7		148.5	
3.15	95.4	97.3	99.6	102.3	105.8	106.4	107.7	107.5	107.9	107.1	104.5		147.8	
4.00	94.3	95.4	98.0	101.0	104.5	104.9	105.8	107.2	107.3	107.0	104.2		146.9	
5.00	92.3	94.1	96.8	99.9	103.4	104.8	105.3	107.0	107.5	107.3	103.5		146.7	
6.30	91.8	93.9	96.3	99.9	103.4	105.1	107.5	108.1	109.3	108.9	104.5		147.6	
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3		56.8	
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.3	
													OAPWL = 167.6	

OASPL 116.7 116.5 117.4 119.9 123.4 123.7 124.7 125.8 128.6 131.1 131.8
 PNL 125.1 125.0 126.4 129.1 132.5 132.9 134.2 134.7 136.3 137.5 137.8

200. SIDELINE
 PNL 121.2 121.7 123.6 126.5 129.7 129.7 130.2 129.5 129.6 128.4 125.2

370. SIDELINE
 PNL 115.5 115.9 117.8 120.8 124.0 124.0 124.1 123.3 123.7 122.4 119.0

600. SIDELINE
 PNL 107.7 107.9 109.7 113.1 116.3 116.2 115.8 115.0 115.6 114.2 110.5

2123. SIDELINE
 PNL 96.6 96.6 98.3 102.0 105.2 105.0 104.0 103.1 103.9 102.3 98.1

B-37

20189F Q1259 VCE FRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 04 ET

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SGFT	11.69	7.73	SGM	1.105	0.718	MASS FLOW	LB/S	502.6	568.8	KG/S	218.0	253.0
PPES	29.75IN	1.01BAR	P.R.		1.40	2.40		1.60	2.40	THRUST,IDL	LB	23316.1	32497.9		N103715144557	
REL H	37.0%		TEMP	(R)	1463.0	1262.	(Y)	315.6	701.1	THRUST,MEA	LB		3.0	N	0.0	0.0
SDSPD	1145FPS	349M/S	PHO	LB/FT3	0.031	0.040	KG/M3	0.492	0.630	AREA (MOD)	SGFT	0.08	0.05	SGM	0.008	0.005
			VEL	FPS	1493.9	1839.7	M/S	455.3	560.7	W (MODEL)	LB/S	3.5	3.9	KG/S	1.6	1.8

FAA DAY
BAND

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

CENTER FREQ (MHZ)	65	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	101.2	100.9	101.6	103.0	105.5	105.9	107.9	112.9	118.5	122.1	123.1	156.4
.053	101.9	102.7	102.8	104.3	107.3	106.7	108.3	113.7	119.2	123.2	123.9	157.3
.080	105.9	107.2	105.5	107.9	110.5	109.9	111.8	116.3	122.0	126.3	128.5	160.7
.100	101.2	103.1	103.8	105.6	108.5	107.7	110.1	113.5	118.0	120.9	122.0	155.9
.125	101.8	102.3	103.0	104.3	108.1	107.8	109.8	113.1	117.1	119.4	119.9	154.8
.160	100.7	102.2	102.9	103.8	107.7	107.5	109.9	112.8	115.5	116.9	113.0	153.4
.200	101.0	101.7	102.8	104.5	107.9	107.8	110.0	112.4	114.7	115.8	116.4	152.8
.250	101.9	102.2	103.3	104.5	108.2	107.8	110.3	112.3	113.7	115.0	115.5	152.4
.315	102.1	102.7	103.4	104.8	108.5	108.4	110.2	111.8	113.0	114.6	115.3	152.2
.400	103.4	102.8	103.2	105.0	108.7	108.8	109.9	111.0	112.4	114.3	114.5	151.9
.500	104.3	103.1	103.7	105.6	109.6	109.6	110.9	110.7	111.6	113.7	113.8	152.0
.630	103.3	103.3	104.0	105.5	109.7	109.9	111.7	111.0	110.7	112.5	112.1	151.9
.800	102.3	103.5	103.7	105.2	109.1	109.1	111.9	111.4	111.3	111.7	110.9	151.6
1.00	104.1	104.0	103.4	103.9	107.5	107.4	109.5	110.2	110.3	109.7	103.9	150.2
1.25	103.5	104.3	104.2	104.6	106.8	106.7	108.2	108.3	108.8	108.3	107.1	149.3
1.60	100.9	102.4	103.3	104.6	105.7	105.3	106.7	105.1	106.0	105.9	104.3	147.6
2.00	93.6	100.5	101.9	103.3	105.1	104.6	105.5	105.8	104.9	104.4	103.0	146.5
2.50	96.7	99.5	100.0	101.7	104.5	103.9	104.3	104.0	103.4	102.6	100.8	145.2
3.15	94.8	96.9	98.8	100.7	103.5	103.4	103.7	103.2	102.2	101.4	99.5	144.3
4.00	93.4	94.8	97.0	99.1	102.1	101.7	102.6	102.3	101.6	101.4	99.4	143.1
5.00	91.4	93.2	95.9	97.9	100.9	101.2	101.7	102.0	101.7	102.2	99.2	142.6
6.30	90.8	93.1	95.2	96.7	100.6	101.3	102.3	102.7	103.3	104.8	100.8	143.1
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CAPNL = 166.6

CASPL	115.0	115.7	116.2	117.5	120.8	120.6	122.5	124.5	128.0	131.0	132.3
PNL	123.2	124.3	125.4	127.0	130.0	129.8	131.0	131.5	132.3	134.2	134.6

200. SIDELINE

PNL	119.2	121.1	122.6	124.3	127.2	126.6	126.9	126.3	125.6	125.3	122.2
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370. SIDELINE

PNL	113.3	115.2	116.7	118.4	121.3	120.5	120.9	120.3	119.8	119.4	116.2
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800. SIDELINE

PNL	105.3	107.3	109.7	110.3	113.1	112.3	112.7	112.1	112.0	111.5	108.2
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2128. SIDELINE

PNL	93.7	95.2	96.7	98.3	101.3	100.6	101.2	100.8	101.0	100.6	97.3
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20189F Q1259 VCE FRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 12.0/1 RUN NUMBER 2018 CONDITION 1947

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	29.0(F)	31.7(C)	AREA	SQFT	11.89	7.73	SQM	1.105	0.718	MASS FLOW	LB/S	673.9	430.6	KG/S	305.7	195.3			
PRES	29.75IN	1.01BAR	P.R.		2.07	2.10		2.07	2.10	THRUST, IOL	LB	39769.2	26097.7		N176902116003				
REL H	35.0%		TEMP	(R)	1583.0	1639.	(K)	279.4	910.6	THRUST, MEA	LB	0.0		H	0.0				
SDSPD	1142FPS	349M/S	RHO	LB/FT3	0.030	0.029	KG/M3	0.426	0.470	AREA (MCD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1900.2	1951.7	M/S	579.2	594.9	W (MODEL)	LB/S	4.7	3.0	KG/S	2.1	1.4			

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	103.8	103.3	103.7	105.1	108.0	108.4	110.4	116.3	122.5	125.8	126.5	160.0
.063	114.7	110.8	112.0	119.0	122.5	118.9	115.8	121.9	133.1	137.4	136.7	172.6
.080	113.1	110.0	110.9	117.2	120.8	117.5	115.6	121.5	136.5	135.7	135.1	171.0
.100	111.0	107.0	108.4	107.6	115.0	113.1	114.4	120.0	129.9	129.4	129.1	164.4
.125	107.0	106.8	106.3	107.9	112.7	111.2	114.2	119.4	127.0	127.8	124.8	162.5
.160	109.1	109.0	107.0	109.3	112.9	111.1	114.3	119.2	126.3	126.5	124.0	161.8
.200	109.8	109.4	108.8	109.2	112.4	112.4	114.3	118.9	125.8	126.3	123.3	161.5
.250	108.6	109.0	109.9	109.2	112.1	111.8	114.4	118.6	123.8	123.4	120.4	159.7
.315	107.5	107.5	108.3	109.4	112.3	112.1	114.4	117.9	123.3	122.3	118.8	159.0
.400	106.9	106.3	106.8	108.4	112.2	112.2	114.0	116.6	121.5	120.1	116.4	157.5
.500	105.5	105.2	105.8	107.7	112.0	112.4	114.1	116.0	120.0	118.3	114.4	156.5
.630	103.7	104.5	105.4	107.3	111.9	112.6	114.0	114.9	118.3	116.7	112.1	155.5
.800	102.9	104.2	105.3	107.1	111.3	112.0	113.7	113.3	116.9	115.3	110.4	154.5
1.00	102.3	103.0	103.7	105.7	110.0	110.6	112.5	112.8	115.4	113.1	109.3	153.1
1.25	101.0	101.9	102.7	104.8	109.0	109.2	110.7	111.5	114.2	112.0	106.9	151.9
1.60	99.2	100.0	101.0	103.9	106.9	107.5	108.7	109.2	112.0	110.0	105.0	149.9
2.00	97.7	98.9	100.0	102.5	105.8	106.5	107.5	108.5	111.7	109.1	104.5	149.0
2.50	96.1	97.2	98.5	101.0	105.0	105.4	106.1	107.0	110.6	107.9	103.0	147.7
3.15	94.4	96.0	97.5	100.0	103.8	104.4	105.5	106.3	110.2	107.6	103.2	147.1
4.00	93.4	94.2	95.8	98.4	102.3	102.7	104.2	105.6	110.3	107.9	105.8	146.5
5.00	92.1	93.4	94.9	97.1	101.1	102.5	103.4	105.6	111.7	108.8	103.5	147.1
6.30	92.7	93.8	94.7	96.5	101.0	102.7	104.2	106.8	114.2	111.5	112.1	149.1
8.00	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	55.8
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 176.4

QASPL 120.7 119.3 119.7 123.4 127.2 125.4 126.1 130.1 141.5 141.0 140.1
 PNL 125.2 125.2 126.0 128.3 132.2 132.3 133.6 135.7 143.0 141.9 140.0

200. SIDELINE

PNL 121.3 122.0 123.2 125.7 129.4 129.0 129.5 130.6 136.3 133.0 127.5

370. SIDELINE

PNL 115.5 116.4 117.4 119.8 123.6 123.1 123.5 124.8 130.6 127.2 121.6

800. SIDELINE

PNL 108.0 108.8 109.8 111.9 115.6 115.0 115.6 117.1 122.9 119.5 113.6

2128. SIDELINE

PNL 97.4 98.1 99.1 101.4 105.0 104.0 104.5 106.1 112.4 108.9 103.0

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 01

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	80.0(F)	31.1(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	128.2	114.1	KG/S	58.1	51.8			
PRES	30.10IN	1.02BAR	P.R.		1.59	2.39		1.59	2.39	THRUST, IDL	LB	5909.2	8249.8	N	26285	36697			
REL H	37.0%		TEMP	(R)	1464.0	2008.	(K)	813.3	1115.6	THRUST, MEA	LB	0.0		N		0.0			
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.493	0.393	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1484.7	2327.7	M/S	452.5	709.5	W (MODEL)	LB/S	3.6	3.2	KG/S	1.6	1.4			

FAA DAY
BAND
CENTER FREQ
(KHZ)

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)

	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	94.2	93.2	94.9	96.7	98.8	101.0	101.4	105.4	109.9	114.7	118.8	145.2
.063	97.3	96.6	97.5	98.1	101.0	102.4	104.7	108.9	114.1	118.1	119.9	148.0
.080	98.3	97.6	98.8	100.1	102.3	102.9	105.3	109.7	116.4	119.9	120.9	149.6
.100	99.8	99.3	100.5	101.9	104.3	104.7	107.1	112.1	117.7	121.1	121.7	150.9
.125	100.0	100.4	101.5	102.6	105.8	105.5	107.9	112.7	117.8	121.7	121.2	151.3
.160	100.3	101.1	102.1	103.1	107.1	107.3	109.8	113.1	117.9	121.0	120.9	151.1
.200	100.0	102.0	103.0	103.8	107.5	107.1	110.1	113.1	116.3	119.4	120.4	150.2
.250	100.5	101.3	102.8	103.6	107.6	107.6	110.2	113.0	115.3	118.0	119.3	149.4
.315	100.1	101.3	103.0	104.0	107.8	107.8	110.7	112.8	114.2	116.7	118.1	148.7
.400	100.8	101.5	103.2	104.7	108.7	108.6	111.5	112.8	114.0	116.8	118.0	148.9
.500	101.6	102.0	103.4	104.9	109.1	109.1	112.0	112.9	114.3	117.3	118.2	149.3
.630	102.1	102.2	103.8	105.3	109.4	110.0	112.5	113.0	115.0	118.5	118.2	150.0
.800	102.4	101.9	103.4	105.1	109.6	110.2	112.4	112.8	115.8	118.7	117.3	150.1
1.00	101.9	101.8	103.2	105.3	109.7	110.5	112.7	113.4	117.0	118.2	115.6	150.2
1.25	100.7	101.6	103.2	105.3	110.0	110.5	112.7	113.6	117.3	116.5	113.6	149.9
1.60	99.6	101.3	103.3	105.2	109.9	110.8	112.4	113.7	116.6	114.9	112.1	149.3
2.00	100.6	100.7	102.8	104.7	109.4	110.2	112.0	113.0	114.8	113.1	110.1	148.3
2.50	100.5	101.1	102.4	104.2	108.9	109.6	110.9	112.3	113.4	111.8	109.9	147.4
3.15	97.9	99.6	101.5	103.5	107.1	107.8	109.5	110.5	111.2	110.1	106.5	145.6
4.00	95.9	98.1	100.8	102.6	106.2	107.2	108.4	109.7	110.9	108.9	105.4	144.8
5.00	94.4	96.2	98.8	101.1	105.4	106.1	106.7	108.1	109.7	107.6	103.8	143.4
6.30	92.9	95.1	97.6	100.1	104.4	105.3	106.3	107.5	108.9	106.7	102.6	142.7
8.00	91.6	92.9	96.1	99.4	102.8	103.4	104.9	106.4	108.2	106.3	102.2	141.5
10.0	89.2	91.0	94.6	96.5	101.0	102.1	103.6	105.5	107.9	106.1	101.1	140.6

OAPWL = 162.5

OASPL 113.3 113.9 115.5 117.0 121.1 121.6 123.8 125.5 128.7 131.0 131.2
 PNL 124.6 125.4 127.1 128.9 133.1 133.7 135.4 137.0 139.0 139.0 137.4

200. SIDELINE

PNL 115.8 117.4 119.5 121.4 125.5 125.7 126.6 127.0 127.3 125.0 119.9

370. SIDELINE

PNL 109.7 111.3 113.4 115.3 119.4 119.6 120.5 120.7 121.0 118.5 113.6

800. SIDELINE

PNL 101.0 102.8 104.9 106.8 110.9 111.0 111.8 111.9 112.2 109.8 104.9

2128. SIDELINE

PNL 87.5 89.4 91.8 93.7 97.8 97.7 98.5 98.4 98.7 97.4 92.7

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 02

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	127.4	119.2	KG/S	57.8	54.1
PRES	30.10IN	1.02BAR	P.R.		1.59	2.38		1.59	2.38	THRUST,IDL	LB	5673.8	8193.5	N	26128	36446
REL H	38.0Z		TEMP	(R)	1466.0	1825.	(K)	814.4	1013.9	THRUST,NEA	LB	0.0	0.0	N	0.0	0.0
SOSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.027	KG/M3	0.492	0.434	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1404.1	2214.1	M/S	452.4	674.9	W (MODEL)	LB/S	3.5	3.3	KG/S	1.6	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ
(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER
1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	93.8	92.9	94.5	96.3	98.1	100.4	101.0	105.2	109.5	114.5	118.6	145.0
.063	96.8	96.4	97.4	97.7	100.9	102.2	104.5	108.8	113.8	117.9	119.6	147.8
.080	97.9	97.3	98.6	99.9	102.0	102.5	105.2	109.4	116.0	119.8	120.5	149.4
.100	99.6	99.0	100.1	101.7	104.2	104.5	106.9	112.0	117.6	121.0	121.6	150.8
.125	99.7	100.2	101.2	102.2	105.8	105.3	107.6	112.5	117.8	121.7	121.1	151.2
.160	100.1	100.9	101.9	102.9	106.9	107.1	109.5	112.9	117.8	120.9	120.9	151.0
.200	99.7	101.6	102.8	103.5	107.1	106.9	109.9	112.9	116.3	119.4	120.2	150.1
.250	100.4	101.0	102.3	103.3	107.2	107.4	109.9	112.8	115.3	117.9	119.0	149.2
.315	99.8	100.9	102.5	103.5	107.4	107.4	110.2	112.5	113.9	116.4	117.8	148.4
.400	100.4	101.2	102.7	104.2	108.2	108.3	111.0	112.5	113.7	116.1	117.6	148.5
.500	101.2	101.6	102.8	104.3	108.5	108.7	111.4	112.5	113.7	116.6	117.6	148.7
.630	101.6	101.7	103.3	104.8	109.0	109.5	111.9	112.5	114.1	117.6	117.8	149.3
.800	101.9	101.5	102.8	104.7	109.0	109.7	111.7	112.2	114.8	118.1	117.0	149.4
1.00	101.5	101.4	102.8	104.7	109.1	109.8	112.0	112.7	116.1	117.7	115.6	149.6
1.25	100.1	101.3	102.7	104.7	109.5	110.0	111.9	112.7	116.4	116.3	113.8	149.2
1.60	99.4	101.1	102.6	104.8	109.2	110.1	111.8	112.7	116.1	114.8	112.2	143.8
2.00	100.5	100.6	102.1	104.0	108.6	109.6	111.4	111.9	114.3	113.0	110.2	147.7
2.50	100.8	101.4	102.0	103.8	108.2	108.8	110.3	111.2	112.9	111.7	108.9	146.8
3.15	99.3	100.0	101.6	103.2	106.4	107.4	108.8	109.6	110.8	109.9	106.6	145.1
4.00	95.8	98.0	100.4	102.3	105.6	106.5	107.6	108.6	110.4	108.7	105.5	144.2
5.00	94.3	96.1	98.4	100.8	104.9	105.3	106.0	107.1	109.1	107.3	104.0	142.8
6.30	92.6	95.2	97.1	99.8	103.9	104.4	105.4	106.4	108.3	106.4	102.6	142.0
8.00	91.3	92.9	95.4	97.8	102.2	102.4	103.8	105.3	107.4	106.1	102.3	140.7
10.0	89.2	91.1	93.9	96.1	100.3	101.2	102.7	104.5	107.2	105.9	101.0	139.9

OAPHL = 162.1

OASPL 113.0 113.6 115.0 116.6 120.6 121.1 123.2 125.0 128.3 130.7 131.0
 PHL 124.5 125.4 126.8 128.5 132.5 133.1 134.8 136.1 138.5 138.8 137.3

200. SIDELINE

PHL 115.8 117.4 119.2 121.1 124.9 125.1 126.0 126.2 126.8 124.7 119.7

370. SIDELINE

PHL 109.6 111.3 113.1 114.9 118.9 110.9 119.9 119.9 120.5 118.3 113.3

600. SIDELINE

PHL 101.0 102.7 104.5 106.4 110.4 110.4 111.2 111.1 111.7 109.4 104.7

2128. SIDELINE

PHL 87.3 89.3 91.3 93.3 97.2 97.2 98.0 97.7 98.2 97.2 92.4

C2

NOISE IS
STABILITY

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 03

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	128.5	123.8	KG/S	58.3	56.2
PRES	30.10IN	1.02BAR	P.R.		1.61	2.38		1.61	2.38	THRUST, IDL	LB	5981.6	8169.2	N	26607	36338
REL H	39.0%		TEMP	(R)	1467.0	1683.	(K)	815.0	935.0	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.493	0.472	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1498.6	2124.1	M/S	456.8	647.4	W (MODEL)	LB/S	3.6	3.4	KG/S	1.6	1.6

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	93.4	92.7	94.5	96.1	98.3	100.4	100.9	105.0	109.5	114.3	118.5	
.063	96.8	96.1	97.2	97.7	100.7	102.4	104.3	108.5	113.7	117.8	119.4	
.080	97.7	97.3	98.5	99.6	101.9	102.6	105.1	109.3	116.0	119.8	120.6	
.100	99.6	98.8	99.9	101.4	104.0	104.5	106.8	111.9	117.7	121.1	121.6	
.125	99.5	99.9	101.1	102.1	105.5	105.0	107.5	112.5	117.9	121.6	121.0	
.160	99.9	100.7	101.7	102.9	106.8	106.8	109.3	113.0	118.0	121.0	120.9	
.200	99.7	101.5	102.8	103.3	106.9	106.7	109.6	112.8	116.6	119.5	120.2	
.250	100.2	100.9	102.1	103.1	106.9	107.1	109.7	112.6	115.5	118.2	119.0	
.315	99.5	100.7	102.3	103.2	107.2	107.1	110.0	112.3	114.1	116.2	117.5	
.400	99.9	100.7	102.4	103.7	107.8	107.9	110.4	112.3	113.5	115.7	116.9	
.500	100.8	101.3	102.5	103.7	108.1	108.3	110.8	112.1	113.2	115.7	117.0	
.630	101.1	101.3	102.7	104.2	108.3	109.7	111.2	112.0	113.2	116.6	116.9	
.800	101.4	101.0	102.4	103.9	108.3	108.9	110.8	111.4	113.3	116.8	116.2	
1.00	100.8	100.9	102.2	104.1	108.3	109.0	111.1	111.6	114.2	116.6	115.2	
1.25	99.6	100.6	102.1	103.9	108.7	109.0	111.1	111.3	114.6	115.8	113.2	
1.60	98.9	100.5	102.0	103.8	108.3	109.0	110.6	111.3	114.6	114.2	111.8	
2.00	100.2	100.1	101.4	103.2	107.6	108.4	110.1	110.4	113.0	112.0	109.6	
2.50	100.7	101.2	101.3	102.9	107.1	107.8	109.1	109.8	111.5	110.8	108.1	
3.15	97.9	99.7	100.9	102.4	105.4	106.2	107.6	108.0	109.3	108.9	105.9	
4.00	95.4	97.5	99.9	101.4	104.5	105.4	106.2	107.0	108.8	107.8	104.8	
5.00	93.8	95.6	97.7	100.0	103.7	104.2	104.6	105.5	107.5	106.3	103.2	
6.30	92.3	94.7	96.6	98.8	102.8	103.2	104.0	104.7	106.4	105.4	101.9	
8.00	91.0	92.3	94.7	96.9	101.2	101.4	102.4	103.3	105.5	104.9	101.4	
10.0	88.5	90.5	93.4	95.1	99.3	100.1	101.1	102.2	105.2	104.5	100.5	

OAPWL = 161.6

OASPL 112.7 113.3 114.6 116.0 120.0 120.4 122.5 124.3 127.8 130.5 130.8
 PNL 124.3 125.0 126.3 127.8 131.6 132.2 133.0 135.0 137.4 138.1 136.8

200. SIDELINE

PNL 115.5 117.0 118.7 120.4 124.1 124.2 125.0 125.1 125.7 124.1 119.3

370. SIDELINE

PNL 109.3 110.9 112.5 114.2 118.0 118.1 118.9 118.8 119.4 117.7 113.0

800. SIDELINE

PNL 100.7 102.4 104.0 105.7 109.5 109.5 110.2 110.1 110.7 108.9 104.5

2120. SIDELINE

PNL 87.0 89.0 90.8 92.6 96.5 96.3 97.1 97.1 97.7 96.9 92.2

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 04

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	127.1	142.2	KG/S	57.6	64.5
PRES	30.10IN	1.02BAR	P.R.		1.61	2.41		1.61	2.41	THRUST, IDL	LB	5904.0	8195.2	N	26262	36454
REL H	25.0Z		TEMP	(R)	1463.0	1278.	(K)	812.8	710.0	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.039	KG/M3	0.494	0.630	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1496.0	1855.7	M/S	456.0	565.6	W (MODEL)	LB/S	3.5	3.9	KG/S	1.6	1.8

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	92.3	91.9	93.7	95.3	96.6	99.7	100.3	104.2	108.8	113.5	117.6	144.0
.063	95.6	95.5	96.9	97.7	99.3	101.8	103.6	107.9	113.1	117.0	118.6	146.9
.080	97.1	96.9	98.1	98.9	99.7	101.9	104.2	108.5	115.2	118.9	119.7	148.5
.100	99.5	98.8	99.6	101.2	101.6	103.7	106.1	111.4	117.3	120.6	120.8	150.3
.125	99.3	99.5	100.1	101.5	102.9	104.6	106.9	112.0	118.0	121.4	120.2	150.8
.160	99.8	100.3	101.0	102.3	104.0	106.5	108.8	112.5	117.9	120.8	120.3	150.8
.200	99.4	100.9	102.0	103.0	104.1	106.1	108.8	112.3	116.7	119.5	119.7	149.9
.250	99.4	100.1	101.2	102.4	103.8	106.5	108.8	112.3	115.4	118.1	118.5	148.9
.315	98.7	99.5	101.0	102.2	103.8	106.2	109.1	111.7	113.9	116.1	117.1	147.7
.400	98.7	99.4	100.9	102.5	104.3	106.9	109.4	111.7	113.2	115.7	116.7	147.5
.500	99.3	99.8	101.0	102.6	104.4	107.1	109.7	111.6	112.9	115.5	116.5	147.4
.630	99.7	99.8	101.4	103.0	104.8	107.6	109.9	111.4	112.6	116.2	116.6	147.7
.800	100.0	99.6	100.9	102.7	104.6	107.5	109.6	110.9	112.4	116.4	115.9	147.5
1.00	99.8	99.7	100.8	102.3	104.5	107.6	109.8	110.9	113.0	116.4	115.3	147.5
1.25	99.1	99.7	100.8	102.3	104.9	107.4	109.7	110.5	113.4	115.8	114.4	147.3
1.60	99.2	99.6	100.6	102.5	104.3	107.3	109.3	109.7	112.5	114.0	112.4	146.3
2.00	102.3	100.8	100.6	101.8	103.8	106.6	108.5	108.7	111.1	111.8	110.1	145.0
2.50	102.7	102.6	102.0	101.8	103.3	105.9	107.5	107.7	109.7	110.6	108.6	144.3
3.15	99.4	101.0	102.2	102.5	101.9	104.2	106.0	105.7	107.3	108.7	106.5	142.7
4.00	96.6	98.5	100.7	102.2	101.8	103.8	104.9	104.8	107.0	107.7	105.7	141.8
5.00	95.4	96.6	98.2	100.5	102.1	103.5	103.9	103.8	105.9	106.5	104.5	140.8
6.30	94.2	96.2	97.9	99.8	101.3	103.6	103.9	103.6	105.2	106.0	103.9	140.5
8.00	94.1	94.8	97.0	99.1	100.4	102.5	103.3	103.1	104.9	106.3	104.1	139.9
10.0	92.8	94.2	96.7	98.3	99.5	102.1	102.7	102.7	105.3	106.7	103.8	139.7

OAPWL = 161.0

DASPL 112.6 113.0 114.0 115.4 116.8 119.3 121.4 123.6 127.2 130.2 130.2
 PNL 125.3 125.6 126.6 127.6 128.4 130.9 132.6 133.6 136.2 138.0 137.0

200. SIDELINE

PNL 116.5 117.6 119.0 120.1 120.9 122.9 123.9 123.7 124.5 123.9 119.3

370. SIDELINE

PNL 110.3 111.4 112.8 114.0 114.8 116.8 117.7 117.5 118.2 117.6 112.9

800. SIDELINE

PNL 101.5 102.8 104.0 105.2 106.2 108.2 109.0 109.8 109.5 108.8 104.2

2128. SIDELINE

PNL 87.6 89.1 90.5 91.7 93.0 95.0 95.9 96.3 97.2 96.7 91.8

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 05

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	127.4	154.4	KG/S	57.8	70.1
PRES	30.10IN	1.02BAR	P.R.		1.61	2.40		1.61	2.40	THRUST,IDL	LB	5896.1	8131.5	N	26227	36171
REL H	26.0Z		TEMP	(R)	1451.0	1072.	(K)	806.1	595.6	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHD	LB/FT3	0.031	0.047	KG/M3	0.498	0.756	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1489.8	1695.4	M/S	454.1	516.8	W (MODEL)	LB/S	3.5	4.3	KG/S	1.6	1.9

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	91.7	91.4	93.1	94.8	95.9	99.4	99.7	103.9	108.2	112.9	117.1	143.5
.063	95.0	95.0	96.6	97.1	98.9	101.5	103.3	107.4	112.5	116.4	118.1	146.4
.080	96.6	96.4	97.7	98.5	99.4	101.5	104.0	108.4	114.8	118.3	119.2	148.0
.100	99.1	98.3	99.2	100.7	101.2	103.4	105.7	111.2	116.9	120.2	120.5	149.9
.125	98.9	99.2	99.6	101.1	102.6	104.2	106.4	111.8	117.6	120.8	119.6	150.3
.160	99.4	99.8	100.5	102.0	103.8	106.1	108.2	112.3	117.8	120.4	119.6	150.4
.200	99.1	100.3	101.7	102.5	103.8	105.6	108.3	111.9	116.6	118.9	119.1	149.4
.250	98.7	99.4	100.8	101.7	103.4	105.8	108.3	111.6	115.0	117.4	117.6	148.3
.315	97.8	98.9	100.5	101.5	103.2	105.6	108.3	111.2	113.4	114.9	115.7	146.8
.400	97.8	98.7	100.3	101.8	103.5	106.1	108.6	111.1	112.5	114.0	114.9	146.4
.500	98.3	98.9	100.1	101.7	103.5	106.0	108.6	110.7	111.6	113.1	114.4	145.9
.630	98.8	98.9	100.5	101.8	103.6	106.3	108.8	110.4	110.9	113.4	114.5	145.9
.800	99.3	98.9	99.7	101.5	103.4	106.1	108.2	109.5	110.2	113.1	114.1	145.4
1.00	99.0	98.8	99.9	101.7	103.3	106.0	108.4	109.5	110.2	113.1	113.8	145.4
1.25	98.6	98.8	99.7	101.5	103.4	105.8	107.9	108.8	109.4	112.9	112.8	144.9
1.60	99.2	99.1	99.6	101.1	102.9	105.5	107.5	107.9	108.4	111.1	110.5	143.9
2.00	103.2	101.5	100.4	100.7	102.2	104.8	106.8	106.9	107.3	108.8	108.5	143.0
2.50	103.6	103.6	102.7	101.2	101.8	104.0	105.8	105.9	106.1	107.3	106.8	142.5
3.15	99.9	101.6	103.0	102.6	101.0	102.6	104.4	103.9	103.8	105.2	104.7	141.2
4.00	97.2	93.8	100.9	102.4	101.4	102.4	103.2	103.2	103.3	104.0	103.7	140.2
5.00	96.2	97.2	98.5	100.1	101.7	102.2	102.3	102.0	101.9	102.7	102.7	139.1
6.30	94.8	96.6	98.3	99.6	100.6	102.9	102.5	101.9	101.2	102.1	102.2	138.9
8.00	94.4	95.0	97.6	98.6	99.6	101.3	101.9	101.2	100.6	102.3	102.5	138.1
10.0	93.2	94.4	96.8	98.0	98.9	100.6	101.2	100.9	101.0	102.7	102.2	137.4

POWER
1E-12W

OAPHL = 160.0

OASPL	112.5	112.8	113.7	114.7	116.0	118.2	120.3	122.8	126.2	129.0	129.3
PNL	125.6	125.9	126.7	127.2	127.6	129.5	131.2	132.3	133.5	135.5	135.5

200. SIDELINE

PNL	116.8	117.9	119.1	119.8	119.9	121.5	122.5	122.3	122.0	121.5	118.0
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370. SIDELINE

PNL	110.6	111.7	112.9	113.6	113.7	115.4	116.3	116.2	115.7	115.4	111.7
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800. SIDELINE

PNL	101.8	103.1	104.1	104.8	105.2	106.8	107.7	107.5	107.6	107.1	103.1
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2128. SIDELINE

PNL	87.7	89.2	90.4	91.0	92.0	93.7	94.7	95.4	96.1	95.4	90.8
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20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 06

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	126.7	104.8	KG/S	57.5	47.5
FRES	30.10IN	1.02BAR	P.R.		1.59	2.19		1.59	2.19	THRUST,IDL	LB	5846.7	7205.6	N	26007	32052
REL H	37.0Z		TEMP	(R)	1469.0	1999.	(K)	816.1	1110.6	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.024	KG/M3	0.491	0.397	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1405.7	2214.8	M/S	452.8	675.1	W (MODEL)	LB/S	3.5	2.9	KG/S	1.6	1.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	93.4	92.5	94.2	95.7	97.8	99.8	100.4	104.6	109.1	114.0	118.1		144.5
.053	96.4	95.9	97.1	97.4	100.6	101.9	104.1	108.2	113.3	117.2	119.1		147.2
.080	97.5	96.9	98.1	99.3	101.5	102.0	104.6	108.9	115.5	119.1	120.1		148.8
.100	99.3	99.7	99.9	101.2	103.8	104.0	106.5	111.6	117.0	120.5	121.1		150.3
.125	99.3	99.7	100.8	101.8	104.9	104.6	107.1	111.9	117.2	121.1	120.4		150.6
.160	99.5	100.3	101.4	102.3	106.4	106.4	108.9	112.3	116.9	120.2	120.1		150.3
.200	99.2	101.1	102.2	102.9	106.7	106.4	109.4	112.4	115.6	118.7	119.4		149.4
.250	99.8	100.5	102.0	102.8	106.8	107.0	109.4	112.3	114.5	117.2	118.3		148.6
.315	99.1	100.4	102.2	103.1	107.0	107.0	109.8	111.9	113.2	115.4	116.7		147.7
.400	99.6	100.8	102.4	103.6	107.7	107.7	110.5	111.9	112.8	115.2	116.4		147.7
.500	100.6	101.1	102.4	103.9	108.1	108.4	111.0	111.7	112.9	115.5	116.5		148.0
.630	101.1	101.2	102.9	104.2	108.5	108.9	111.4	111.9	113.2	116.6	116.7		148.6
.800	101.4	101.0	102.4	104.1	108.6	109.3	111.1	111.5	113.8	117.1	115.9		148.6
1.00	101.0	100.9	102.5	104.3	108.9	109.4	111.6	112.1	115.1	117.0	114.9		148.9
1.25	99.6	100.7	102.3	104.2	109.2	109.5	111.4	112.1	115.5	115.8	113.1		148.6
1.60	93.4	100.3	102.2	104.2	108.9	109.7	111.2	112.0	115.2	114.1	111.4		148.1
2.00	93.5	99.6	101.6	103.6	108.3	109.1	110.7	111.5	113.7	112.3	109.5		147.1
2.50	97.4	98.9	100.8	103.1	107.7	108.4	109.8	110.7	112.0	110.9	107.9		146.1
3.15	96.0	97.2	97.4	102.2	105.9	106.9	108.3	108.9	110.0	108.9	105.9		144.4
4.00	94.3	96.3	98.7	100.9	104.9	106.1	106.9	108.0	109.5	107.9	104.6		143.4
5.00	92.7	94.7	97.2	99.5	103.9	104.9	105.5	106.6	108.2	106.5	103.1		142.1
6.30	91.2	93.4	96.0	98.6	102.9	103.7	104.8	105.6	107.3	105.5	101.9		141.2
8.00	89.8	91.3	94.3	96.7	101.2	101.7	103.1	104.5	106.4	105.1	101.3		139.8
10.0	87.6	89.4	92.8	95.0	99.4	100.4	101.9	103.4	106.1	104.8	100.1		138.9

OAPHL = 161.4

OASPL	112.1	112.8	114.4	116.0	120.2	120.6	122.7	124.4	127.5	130.0	130.2	
PHL	122.7	123.8	125.7	127.7	132.0	132.6	134.3	135.5	137.6	138.0	136.4	

200. SIDELINE

PHL	113.9	115.8	118.2	120.3	124.4	124.6	125.5	125.6	126.0	123.9	118.8	
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370. SIDELINE

PHL	107.8	109.7	112.1	114.2	118.3	118.5	119.3	119.4	119.7	117.5	112.5	
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800. SIDELINE

PHL	99.2	101.3	103.6	105.7	109.9	109.9	110.7	110.5	110.9	108.6	103.9	
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2128. SIDELINE

PHL	86.2	88.3	90.7	92.7	96.8	96.7	97.4	97.1	97.4	96.4	91.6	
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20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 07

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	123.8	133.2	KG/S	56.2	60.4
PRES	30.08IN	1.02BAR	P.R.		1.59	2.80		1.59	2.80	THRUST,IDL	LB	5737.0	10329.2	N	25519	45947
REL H	37.0%		TEMP	(R)	1477.0	1995.	(K)	820.6	1108.3	THRUST,MEA	LB	0.0		N		0.0
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.030	0.026	KG/M3	0.488	0.411	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1491.7	2497.0	M/S	454.7	761.1	W (MODEL)	LB/S	3.4	3.7	KG/S	1.6	1.7

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	94.9	94.2	95.8	97.5	99.4	101.2	102.2	106.8	110.9	116.3	120.2	146.6
.063	98.5	97.8	98.4	98.8	102.0	103.1	105.6	110.3	115.4	119.4	121.2	149.3
.080	99.4	98.6	99.6	100.9	103.1	103.4	105.2	111.0	117.5	121.5	122.4	151.0
.100	100.7	100.5	101.6	102.8	105.3	105.2	108.0	113.5	119.2	122.7	123.4	152.4
.125	101.0	101.4	102.4	103.5	106.9	106.2	108.9	114.0	119.0	123.3	123.0	152.7
.160	101.7	102.2	103.4	104.4	108.5	108.1	111.0	114.9	118.9	122.9	123.2	152.8
.200	101.5	103.6	104.4	105.3	108.8	108.1	111.4	114.9	117.8	121.9	122.7	152.2
.250	102.3	103.0	104.1	105.2	108.9	108.7	111.9	114.9	117.1	121.0	122.1	151.7
.315	102.0	103.3	104.5	105.5	109.5	108.8	112.2	114.7	116.4	120.3	121.4	151.3
.400	102.6	103.4	104.6	106.1	110.0	109.8	113.3	114.8	116.7	120.8	121.6	151.7
.500	103.5	103.8	104.9	106.4	110.6	110.4	114.1	115.1	117.5	121.5	121.4	152.2
.630	103.5	103.5	105.0	106.6	110.9	111.0	114.3	115.4	118.8	122.1	120.3	152.7
.800	103.7	103.6	104.8	106.8	111.3	111.4	114.6	115.5	119.8	121.4	118.3	152.7
1.00	103.3	103.6	104.8	106.9	111.5	111.9	114.7	116.4	120.4	119.5	116.5	152.4
1.25	103.2	103.7	105.0	106.9	112.1	112.2	114.8	117.2	119.8	118.0	114.6	152.1
1.60	103.5	104.4	105.2	107.1	111.9	112.4	114.5	117.1	118.1	116.7	112.9	151.4
2.00	103.5	104.7	105.5	106.7	111.6	111.9	114.1	116.3	116.6	115.0	111.5	152.5
2.50	101.8	103.7	105.5	107.1	111.0	111.4	113.3	115.3	115.7	113.9	110.0	149.3
3.15	99.9	101.4	103.7	106.7	109.8	109.8	111.7	113.4	113.7	112.4	108.1	148.1
4.00	98.7	100.6	102.6	104.9	108.8	109.1	110.6	112.8	113.3	111.4	107.3	147.3
5.00	97.3	99.3	101.5	103.8	107.9	108.1	109.4	111.6	112.4	110.1	105.8	146.2
6.30	95.9	98.2	100.5	103.0	107.0	107.5	109.0	111.3	111.9	109.4	105.2	145.7
8.00	94.5	96.2	98.8	101.3	105.4	105.7	107.8	110.6	111.0	109.4	104.4	144.6
10.0	92.2	94.2	97.8	99.7	104.0	104.8	106.8	110.1	111.2	109.2	103.8	144.0

OAPNL = 144.6

OASPL 115.1 115.9 117.2 118.8 123.0 123.1 125.7 128.1 130.9 133.3 133.3
 PNL 126.4 127.7 129.4 131.3 135.1 135.3 137.6 139.8 141.3 141.4 139.6

200. SIDELINE

PNL 117.7 119.7 121.8 123.9 127.6 127.3 128.8 129.8 129.7 127.3 122.2

370. SIDELINE

PNL 111.5 113.6 115.7 117.7 121.5 121.2 122.6 123.6 123.3 121.0 115.9

800. SIDELINE

PNL 103.0 105.1 107.2 109.1 112.9 112.6 113.9 114.7 114.3 112.5 107.3

2120. SIDELINE

PNL 89.7 91.9 93.8 95.7 99.7 99.2 100.5 101.2 100.9 100.0 94.9

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 08

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	88.0(F)	31.1(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	127.4	124.9	KG/S	57.8	56.7
PRES	30.08IN	1.02BAR	P.R.		1.60	2.61		1.60	2.61	THRUST, IDL	LB	5916.7	9404.0	N	26319	41831
REL H	37.0Z		TEMP	(R)	1476.0	2091.	(K)	820.0	1111.7	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.489	0.403	AREA (NOZ)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1495.0	2424.0	M/S	455.7	738.8	N (MODEL)	LB/S	3.5	3.5	KG/S	1.6	1.6

FAA DAY

BAND

CENTER FREQ

(KHZ)

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	94.4	93.8	95.3	96.9	99.1	100.7	101.9	106.1	110.3	115.6	119.8	146.0
.063	97.7	97.2	98.1	99.6	101.5	102.4	105.2	109.5	114.6	119.0	120.7	148.8
.080	98.8	98.1	99.0	100.3	102.6	102.9	105.9	110.4	117.1	121.1	121.8	150.6
.100	100.2	100.0	101.0	102.3	104.9	104.7	107.6	112.8	118.4	121.9	122.6	151.7
.125	100.5	100.9	102.0	103.0	105.4	105.8	108.5	113.2	118.4	122.7	122.2	152.1
.160	101.1	101.7	102.8	103.7	107.8	107.8	110.5	114.1	118.3	122.1	122.3	152.1
.200	101.0	102.9	103.8	104.7	108.4	107.7	111.0	114.2	117.1	120.8	121.8	151.3
.250	101.5	102.3	103.4	104.6	108.3	108.3	111.3	114.1	116.4	120.0	121.0	150.8
.315	101.1	102.3	104.0	104.8	108.8	108.4	111.5	113.8	115.3	119.0	120.2	150.2
.400	101.8	102.7	104.0	105.5	109.5	109.2	112.4	114.0	115.5	119.3	120.2	150.5
.500	102.6	103.1	104.0	105.7	109.9	109.7	113.1	114.1	116.0	120.0	120.1	151.0
.630	102.8	103.0	104.4	105.8	110.3	110.4	113.4	114.3	117.2	120.7	119.7	151.6
.800	103.1	102.7	104.1	106.2	110.5	110.7	113.8	114.3	118.0	120.6	117.9	151.6
1.00	102.7	102.7	104.2	106.2	110.6	111.1	113.9	114.9	119.2	119.3	116.2	151.6
1.25	101.7	102.5	104.3	106.2	111.2	111.4	113.8	115.4	119.0	117.5	114.4	151.2
1.60	101.7	102.7	104.0	106.0	111.0	111.6	113.4	115.6	117.5	116.3	112.8	150.5
2.00	102.9	103.2	103.9	105.6	110.6	111.0	113.1	115.1	115.9	114.6	111.2	149.6
2.50	101.4	103.2	104.4	105.6	110.0	110.5	112.4	114.3	114.7	113.4	109.7	148.8
3.15	98.8	100.6	103.0	105.3	108.5	109.1	110.8	112.3	112.8	111.7	107.7	147.2
4.00	97.7	99.2	101.6	104.1	107.8	108.2	109.6	111.6	112.3	110.6	106.7	146.3
5.00	96.6	93.3	100.2	102.6	107.5	107.2	108.4	110.4	111.4	109.2	105.2	145.2
6.30	94.6	97.1	99.3	101.6	105.8	106.3	107.9	109.7	110.7	108.3	104.0	144.4
8.00	93.5	94.9	97.5	100.1	104.2	104.5	106.8	108.9	110.0	108.2	103.6	142.4
10.0	90.9	92.9	96.4	98.3	102.6	103.7	105.6	108.2	109.9	108.1	102.7	142.6

OAPWL = 163.7

OASPL 114.3 115.0 116.4 118.0 122.2 122.3 124.9 127.0 129.9 132.4 132.4
 PNL 125.7 126.9 128.4 130.2 134.2 134.5 136.7 138.7 140.3 140.6 138.7

200. SIDELINE

PNL 116.9 110.9 120.8 122.8 126.7 126.5 127.9 128.7 128.7 126.6 121.4

370. SIDELINE

PNL 110.8 112.8 114.8 116.6 120.6 120.4 121.7 122.5 122.3 120.1 115.0

800. SIDELINE

PNL 102.2 104.3 106.2 108.0 112.0 111.8 113.0 113.6 113.4 111.5 106.4

2120. SIDELINE

PNL 89.0 90.8 92.9 94.7 96.9 98.4 99.6 100.0 99.8 99.0 94.0

20185F Q1364 VCE PRI./FAH NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 0%

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	126.0	166.0	KG/S	57.2	75.3
PRES	30.10IN	1.02BAR	P.R.		1.60	2.81		1.60	2.81	THRUST,IDL	LB	5844.5	10286.5		H 25998	45756
REL H	25.0%		TEMP	(R)	1468.0	1283.	(K)	815.6	712.8	THRUST,MEA	LB		0.0	N		0.0
SOSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.041	KG/M3	0.492	0.653	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1493.6	1995.8	M/S	455.2	608.3	W (MODEL)	LB/S	3.5	4.6	KG/S	1.6	2.1

FAA DAY
BAND

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	93.8	93.4	95.0	96.8	98.2	101.5	101.2	105.0	109.7	114.8	119.0	145.3
.063	97.1	96.7	97.9	98.6	100.4	103.0	104.6	108.7	114.3	118.3	120.0	148.2
.080	98.0	98.0	99.2	100.3	101.0	103.3	105.3	109.6	116.5	120.4	121.4	150.0
.100	100.1	99.8	100.6	102.4	103.1	105.0	107.2	112.4	118.5	121.7	122.5	151.5
.125	100.4	100.5	101.2	102.8	104.1	105.8	107.9	112.9	119.1	122.8	122.1	152.2
.160	100.6	101.6	102.1	103.8	105.5	108.0	110.0	113.5	119.5	122.8	122.7	152.6
.200	100.4	101.9	103.0	104.1	105.4	107.4	110.1	113.4	118.2	121.3	121.8	151.5
.250	100.4	101.1	102.5	103.5	105.2	107.6	110.1	113.6	117.0	120.5	121.0	150.8
.315	100.1	101.1	102.7	103.5	105.3	107.8	110.6	113.6	116.1	119.8	120.5	150.3
.400	100.7	101.2	102.7	104.1	105.8	108.4	111.3	113.9	116.0	120.1	120.3	150.5
.500	101.5	101.8	102.8	104.4	106.2	108.9	111.6	113.9	116.4	120.5	120.2	150.8
.630	101.8	101.9	103.1	104.9	106.3	109.4	112.1	114.0	117.1	120.8	119.8	151.2
.800	102.9	102.2	103.0	104.7	106.7	109.7	111.8	113.5	116.8	121.8	120.4	151.9
1.00	103.9	102.5	103.1	104.8	106.5	109.4	112.2	113.7	118.4	119.6	117.6	150.8
1.25	107.0	105.5	103.9	104.8	106.9	109.4	112.0	113.3	118.2	118.0	115.9	150.3
1.60	106.6	107.2	106.4	105.4	106.5	109.2	111.5	112.6	116.5	116.7	114.0	149.4
2.00	106.6	107.4	107.6	106.6	106.4	108.7	111.1	111.7	115.2	115.1	112.3	148.6
2.50	104.2	105.8	107.4	107.6	107.0	108.3	110.0	111.0	113.8	113.9	110.9	147.8
3.15	102.4	103.1	104.7	107.1	106.7	107.6	108.8	109.1	111.8	112.2	109.2	146.2
4.00	101.7	103.0	104.0	105.0	106.0	108.1	108.2	108.5	111.6	111.5	108.4	145.7
5.00	100.3	102.0	103.4	104.5	105.5	108.0	107.6	107.5	110.9	110.4	107.3	145.0
6.30	99.6	101.4	103.0	104.6	105.3	107.6	107.8	107.5	110.5	110.2	106.8	144.8
8.00	99.5	100.4	102.4	103.9	104.9	106.6	107.2	107.4	110.6	110.8	107.3	144.6
10.0	98.2	99.7	101.9	103.3	104.9	106.1	106.6	107.1	110.7	111.4	106.8	144.3

OAPHL = 163.5

OASPL 116.0 116.4 117.2 118.1 119.2 121.5 123.5 125.7 130.0 132.8 132.6
 PNL 128.3 129.2 130.3 131.2 131.7 133.7 135.1 136.5 140.0 141.3 139.5

200. SIDELINE

PNL 119.5 121.1 122.7 123.7 124.1 125.5 126.3 126.5 128.3 127.2 122.0

370. SIDELINE

PNL 113.3 114.9 116.6 117.5 117.9 119.2 120.1 120.3 122.0 120.7 115.6

800. SIDELINE

PNL 104.7 106.3 107.9 108.8 109.1 110.6 111.4 111.5 113.1 112.0 106.8

2128. SIDELINE

PNL 91.0 92.9 94.2 95.2 95.6 97.1 98.0 98.5 99.9 99.5 94.2

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 10

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	85.0(F)	29.4(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	128.5	134.6	KG/S	58.3	61.1			
PRES	30.10IN	1.02BAR	P.R.		1.60	2.59		1.60	2.59	THRUST,IDL	LB	5936.7	9261.6	N	26400	41190			
REL H	39.0Z		TEMP	(R)	1459.0	1686.	(K)	810.6	936.7	THRUST,HEA	LB		3.0	N		0.0			
SOSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.495	0.481	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1497.4	2215.0	M/S	453.4	675.1	W (MODEL)	LB/S	3.6	3.7	KG/S	1.6	1.7			

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ) 60 70 80 90 100 110 120 130 140 150 160 MICROPHONE ANGLES IN DEGREES POWER IE-12H

.050	93.9	93.2	95.1	96.8	98.8	101.5	101.3	105.6	110.0	114.9	119.2	145.5
.063	97.5	96.8	97.7	98.1	101.4	103.0	104.9	109.0	114.5	118.4	120.1	148.3
.080	93.3	97.8	99.0	100.1	102.4	103.0	105.5	109.8	116.6	120.3	121.2	149.9
.100	99.9	99.5	100.6	102.3	104.7	104.9	107.4	112.5	118.2	121.6	122.3	151.4
.125	100.2	100.5	101.4	102.6	106.1	105.8	108.0	112.8	118.3	122.1	121.5	151.6
.160	100.6	101.2	102.2	103.3	107.4	107.5	109.8	113.3	118.3	121.5	121.5	151.6
.200	100.3	102.0	103.2	103.9	107.6	107.2	110.2	113.3	117.0	120.1	120.8	150.7
.250	100.8	101.3	102.8	103.8	107.6	107.7	110.3	113.4	115.8	118.6	119.8	149.8
.315	100.4	101.4	103.0	104.0	108.0	107.9	110.7	112.9	114.7	117.2	118.7	149.1
.400	100.8	101.6	103.1	104.6	103.6	108.6	111.3	113.1	114.3	117.0	118.3	149.1
.500	101.6	102.1	103.2	104.7	109.0	109.0	111.6	112.9	114.4	117.3	118.5	149.3
.630	102.1	102.0	103.5	105.1	109.3	109.4	112.1	113.1	114.9	118.3	118.3	149.8
.800	102.2	101.7	103.1	104.8	109.2	109.7	111.8	112.6	115.4	118.5	117.3	149.8
1.00	101.8	101.7	103.0	105.0	109.1	109.8	112.2	113.1	116.5	118.2	116.0	149.9
1.25	101.3	101.7	103.0	105.0	109.7	109.8	112.1	113.0	116.8	116.5	114.0	149.5
1.60	102.1	102.1	103.0	105.0	109.3	110.0	111.9	112.8	116.0	114.9	112.3	148.8
2.00	104.1	103.5	103.4	104.4	108.8	109.5	111.4	112.1	114.6	113.1	110.5	147.9
2.50	102.4	103.8	104.5	104.7	108.4	108.9	110.4	111.7	113.0	112.0	109.1	147.2
3.15	99.4	100.8	103.1	104.8	107.1	107.4	109.1	110.0	110.9	110.2	106.8	145.6
4.00	98.1	99.2	101.4	103.5	106.3	106.8	107.9	109.0	110.5	109.2	105.7	144.6
5.00	96.8	98.3	99.9	101.6	105.6	105.8	106.3	107.5	109.3	107.6	104.2	143.3
6.30	94.7	97.0	99.0	100.9	104.5	104.9	105.9	106.9	108.5	106.9	103.1	142.6
8.00	93.5	94.6	97.2	99.2	103.1	103.1	104.4	105.6	107.8	106.5	102.8	141.4
10.0	90.7	92.7	95.7	97.5	101.3	101.9	103.2	104.8	107.5	106.3	101.6	140.4

OAPHL = 162.5

OASPL 114.0 114.5 115.7 117.1 121.0 121.3 123.5 125.4 128.8 131.3 131.6
 PHL 126.0 126.9 128.1 129.5 132.9 133.2 135.0 136.5 138.8 139.2 137.7

200. SIDELINE

PHL 117.2 118.9 120.5 122.0 125.3 125.2 126.2 126.6 127.1 125.2 120.2

370. SIDELINE

PHL 111.0 112.8 114.4 115.9 119.2 119.1 120.1 120.4 120.8 118.7 113.9

800. SIDELINE

PHL 102.5 104.2 105.9 107.2 110.7 110.5 111.4 111.5 112.0 109.9 105.3

2128. SIDELINE

PHL 89.1 90.6 92.5 93.8 97.5 97.3 98.2 98.1 98.6 97.8 93.1

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 11

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	127.4	115.2	KG/S	57.8	52.3			
PRES	30.10111	1.02BAR	P.R.		1.60	2.22		1.60	2.22	THRUST,IDL	LB	5895.4	7295.6	N	26224	32453			
REL H	25.0%		TEMP	(R)	1459.0	1675.	(K)	810.6	930.6	THRUST,MEA	LB	0.0		N		0.0			
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.495	0.466	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1489.6	2039.2	M/S	454.0	621.6	W (MODEL)	LB/S	3.5	3.2	KG/S	1.6	1.5			

FAA DAY BAND 1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)

CENTER FREQ (KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	92.4	91.9	93.4	95.0	96.4	99.5	100.2	104.3	109.0	113.6	117.7	144.1
.063	95.6	95.3	96.9	97.2	98.8	101.5	103.7	108.0	113.3	117.1	118.6	147.0
.080	97.1	97.0	98.1	98.8	99.6	101.7	104.5	109.0	115.5	118.9	119.5	148.6
.100	99.4	98.4	99.1	100.8	101.5	103.6	106.4	111.5	117.1	120.2	120.4	150.0
.125	98.8	99.4	100.2	101.3	102.6	104.3	106.8	111.9	117.3	120.8	119.9	150.3
.160	99.4	100.0	100.9	102.0	104.0	106.2	108.8	112.4	117.4	120.4	119.8	150.4
.200	99.0	101.0	101.8	102.7	104.0	106.0	109.1	112.1	116.3	119.1	119.3	149.6
.250	99.3	99.8	101.2	102.3	104.1	106.4	109.0	111.9	114.9	117.9	118.3	148.7
.315	98.3	99.5	101.2	102.2	104.0	106.4	109.3	111.6	113.3	116.2	117.1	147.6
.400	98.8	99.6	101.2	102.8	104.7	107.1	109.9	111.6	113.0	116.2	116.8	147.7
.500	99.6	100.1	101.3	102.9	104.9	107.5	110.2	111.6	113.0	116.3	116.5	147.7
.630	99.9	100.0	101.6	103.3	105.3	108.0	110.7	111.6	113.2	116.9	116.4	148.1
.800	100.2	99.8	101.3	103.1	105.2	108.1	110.3	111.1	113.6	116.8	115.4	147.9
1.00	99.8	99.9	101.3	103.2	105.4	108.3	110.7	111.5	114.8	116.3	114.0	148.1
1.25	98.5	99.5	101.1	103.2	105.8	108.4	110.6	111.2	114.9	114.9	112.2	147.6
1.60	97.2	99.1	100.9	103.0	105.3	108.3	110.1	110.7	114.2	113.3	110.5	146.8
2.00	97.1	98.1	100.3	102.2	104.6	107.7	109.7	109.9	112.5	111.2	108.5	145.6
2.50	96.3	97.5	99.3	101.5	104.2	106.9	108.5	109.2	110.9	110.0	107.1	144.6
3.15	94.8	95.9	98.1	100.7	102.5	105.3	107.1	107.3	108.7	108.2	105.0	142.9
4.00	93.2	95.1	97.4	99.4	101.3	104.4	105.7	106.3	108.4	107.2	104.1	141.9
5.00	91.9	94.0	96.3	98.5	100.7	103.4	104.4	105.1	107.4	106.0	102.8	140.8
6.30	91.1	93.3	95.8	98.2	100.3	103.0	104.2	104.8	106.7	105.4	102.1	140.4
8.00	91.0	92.2	95.0	97.3	99.7	102.1	103.4	104.4	106.6	105.7	102.2	140.0
10.0	90.1	91.7	94.8	96.8	98.7	101.7	102.9	104.0	106.9	106.0	101.8	139.8

OAPNL = 161.0

OASPL 111.4 112.0 113.5 115.1 117.1 119.7 122.9 123.9 127.4 130.0 129.9
 PHL 121.8 122.9 124.7 126.6 128.8 131.5 133.4 134.6 137.1 137.7 136.0

200. SIDELINE
 PHL 113.0 114.9 117.1 119.2 121.3 123.5 124.6 124.6 125.4 123.6 118.6

370. SIDELINE
 PHL 106.9 108.7 111.0 113.1 115.2 117.4 118.4 118.4 119.1 117.2 117.2

800. SIDELINE
 PHL 98.3 100.2 102.5 104.6 106.6 108.8 109.8 109.6 110.4 108.5 103.6

2120. SIDELINE
 PHL 85.3 87.3 89.6 91.7 93.5 95.6 96.6 96.6 97.4 96.5 91.4

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 12

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	86.0(F)	30.0(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	128.5	95.8	KG/S	58.3	43.4			
PRES	30.10IN	1.02BAR	P.R.		1.60	2.01		1.60	2.01	THRUST,IDL	LB	5951.5	6218.6		N	26473			
REL H	38.0%		TEMP	(R)	1468.0	1988.	(K)	815.6	1104.4	THRUST,MEA	LB		0.0		N	0.0			
SDSPD	1145FPS	349M/S	RHO	LB/FT3	0.031	0.024	KG/M3	0.492	0.381	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1491.1	2091.0	M/S	454.5	637.3	W (MODEL)	LB/S	3.6	2.7	KG/S	1.6	1.2			

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	92.8	91.8	93.5	95.0	97.3	99.3	100.0	104.4	108.8	113.5	117.6	146.0
.063	95.8	95.2	96.3	96.5	99.7	101.0	103.1	107.7	112.8	116.5	118.2	146.5
.080	96.8	96.2	97.6	98.6	101.0	101.5	104.1	108.5	114.8	118.4	119.4	148.1
.100	98.5	97.8	99.3	100.5	102.9	103.3	105.9	110.9	116.4	119.6	120.2	149.5
.125	98.5	99.0	100.1	100.9	104.3	104.1	106.5	111.2	116.7	120.1	119.3	149.8
.160	98.9	99.7	100.9	101.6	105.7	105.8	108.4	111.7	116.7	119.7	119.4	149.8
.200	98.8	100.6	101.8	102.4	106.0	105.7	108.7	111.5	115.1	118.3	118.7	148.9
.250	99.2	99.7	101.3	102.2	106.0	106.1	108.6	111.4	113.9	116.5	117.3	147.8
.315	98.0	99.4	101.4	102.2	106.1	106.1	108.9	110.9	112.3	114.2	115.3	146.6
.400	98.6	99.6	101.5	102.7	106.9	106.8	109.5	110.8	111.7	113.3	114.1	146.4
.500	99.3	100.0	101.6	102.9	107.3	107.2	109.6	110.7	111.3	112.9	113.5	146.3
.630	99.6	100.2	102.1	103.4	107.6	107.9	110.1	110.7	111.2	113.4	113.5	146.7
.800	100.6	100.0	101.7	103.2	107.8	108.2	109.9	110.3	111.2	113.6	112.9	146.6
1.00	100.6	100.3	101.9	103.5	107.9	108.3	110.2	110.7	112.3	114.1	112.9	147.0
1.25	99.1	100.3	101.9	103.6	108.5	108.6	110.2	110.7	113.0	114.5	112.4	147.2
1.60	97.9	100.1	101.8	103.5	108.2	108.8	109.9	110.2	113.1	113.6	111.2	146.9
2.00	98.0	99.2	101.3	102.9	107.6	108.2	109.4	109.2	111.7	110.9	108.7	145.7
2.50	96.9	98.5	100.5	102.3	107.0	107.5	108.4	108.6	110.0	109.4	107.1	144.7
3.15	95.0	96.9	99.0	101.5	105.2	105.8	107.0	106.8	107.8	107.7	105.1	143.0
4.00	93.9	95.8	98.2	100.4	104.2	105.0	105.8	105.9	107.3	106.6	104.0	142.0
5.00	92.0	94.2	96.8	98.7	103.2	103.8	104.0	104.3	105.8	105.0	102.3	140.6
6.30	90.5	93.0	95.6	97.8	102.0	102.6	103.3	103.3	104.7	104.0	101.0	139.5
8.00	89.4	90.9	93.9	96.1	100.3	100.7	101.6	102.0	103.7	103.3	100.1	138.1
10.0	87.1	88.9	92.4	94.1	98.6	99.3	100.1	100.7	102.9	102.7	98.7	136.8

OAPWL = 160.3

OASPL 111.4 112.1 113.9 115.2 119.4 119.7 121.6 123.2 126.3 128.8 129.1
 PNL 122.0 123.3 125.3 127.0 131.2 131.7 133.0 133.8 135.8 136.6 135.3

200. SIDELINE
 PNL 113.3 115.3 117.7 119.5 123.7 123.7 124.2 123.9 124.2 122.7 117.7

370. SIDELINE
 PNL 107.1 109.2 111.6 113.4 117.6 117.5 118.1 117.7 117.9 116.3 111.4

800. SIDELINE
 PNL 98.5 100.7 103.2 105.0 109.1 109.0 109.4 108.9 109.1 107.4 102.8

2128. SIDELINE
 PNL 85.3 87.7 90.2 91.9 96.0 95.8 96.2 95.9 96.1 95.3 90.4

20188F Q1364 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/04/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 13

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	86.0(F)	30.0(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	128.2	117.4	KG/S	58.1	53.2
PRES	30.10IN	1.02BAR	P.R.		1.61	2.01		1.61	2.01	THRUST,IDL	LB	5999.2	6131.6		H 26686	27274
REL H	26.0%		TEMP	(R)	1476.0	1291.	(K)	820.0	717.2	THRUST,NEA	LB		0.0		H	0.0
SDSPD	1145FPS	349M/S	RHO	LB/FT ³	0.031	0.037	KG/M ³	0.490	0.595	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1507.3	1682.3	M/S	459.4	512.8	M (MODEL)	LB/S	3.6	3.3	KG/S	1.6	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	90.9	90.8	92.4	93.9	95.3	98.3	98.9	103.2	107.7	112.3	116.4	142.9
.063	94.2	94.2	95.6	96.3	97.8	100.4	102.6	106.7	112.0	115.7	117.0	145.6
.080	96.1	95.9	96.9	97.8	98.5	100.6	103.2	107.5	114.2	117.6	118.2	147.3
.100	98.3	97.3	98.0	99.9	100.5	102.6	105.0	110.5	116.2	119.4	119.3	149.1
.125	97.8	98.4	98.9	100.3	101.9	103.3	105.5	111.2	117.0	120.0	118.6	149.6
.160	98.6	99.1	99.6	101.0	102.9	105.3	107.6	111.5	117.4	119.7	118.8	149.8
.200	98.1	99.7	100.9	101.6	103.0	104.8	107.6	111.2	116.1	118.3	118.2	148.8
.250	98.1	98.5	99.6	100.9	102.6	105.0	107.4	110.6	114.4	116.6	116.4	147.4
.315	96.6	97.8	99.4	100.5	102.3	104.7	107.2	110.1	112.3	113.5	113.8	145.6
.400	96.2	97.4	99.0	100.7	102.3	104.8	107.3	109.8	111.1	111.7	111.7	144.7
.500	96.4	97.4	98.8	100.4	102.4	104.8	107.2	109.2	109.7	110.0	110.0	143.8
.630	96.8	97.3	98.9	100.5	102.4	105.0	107.3	108.6	108.5	108.8	108.9	143.4
.800	97.3	96.8	98.3	100.1	101.9	104.7	106.5	107.5	107.3	107.9	107.8	142.5
1.00	96.9	96.9	98.5	100.3	101.9	104.5	106.5	107.2	106.7	107.5	107.3	142.3
1.25	95.8	96.7	98.2	100.0	102.3	104.2	106.2	106.4	106.0	107.3	106.6	141.9
1.60	95.2	96.8	98.0	100.0	102.0	104.4	105.7	105.7	105.5	106.7	106.1	141.5
2.00	96.5	97.0	98.2	99.6	101.8	104.3	105.5	104.8	104.8	105.8	105.6	141.0
2.50	95.0	96.0	97.1	99.1	100.9	103.3	104.5	104.0	103.5	103.9	103.3	139.9
3.15	93.0	94.1	95.8	98.2	99.3	101.5	103.2	102.3	101.5	101.8	100.9	138.3
4.00	91.9	93.4	95.1	97.1	98.3	100.9	101.9	101.8	101.3	100.7	99.8	137.5
5.00	90.9	92.4	94.1	96.0	97.9	100.0	100.6	100.4	100.0	99.5	98.3	136.3
6.30	90.1	92.1	94.0	96.1	97.4	99.8	100.5	100.2	99.2	98.7	97.3	136.1
8.00	90.2	91.1	93.5	95.4	96.8	98.7	99.7	99.4	98.6	98.9	97.4	135.4
10.0	90.1	91.1	93.8	95.3	96.3	98.4	99.1	99.1	98.2	99.9	97.2	135.2

OAPWL = 158.7

OASPL 109.6 110.2 111.5 113.1 114.7 117.0 119.0 121.5 125.3 127.7 127.7

PNL 120.3 121.2 122.5 124.4 126.0 128.3 129.9 130.6 131.6 133.0 132.8

200. SIDELINE

PNL 111.5 113.2 115.0 116.9 118.4 120.3 121.1 120.7 120.2 119.4 115.5

370. SIDELINE

PNL 105.3 107.0 108.9 110.8 112.4 114.2 115.0 114.5 114.3 113.4 109.3

800. SIDELINE

PNL 96.7 98.5 100.4 102.3 103.9 105.7 106.3 105.9 106.2 105.2 100.8

2128. SIDELINE

PNL 83.5 85.4 87.4 89.2 90.9 92.6 93.4 94.0 94.9 93.7 88.9

C13

20189F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 14

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	92.0(F)	33.3(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	109.8	112.7	KG/S	49.8	51.1			
PRES	30.08IN	1.02BAR	P.R.		1.60	2.39		1.60	2.39	THRUST,IDL	LB	5954.9	8140.5	N	26489	36211			
REL H	29.0%		TEMP	(R)	2006.0	2005.	(K)	1114.4	1113.9	THRUST,MEA	LB		0.0	N		0.0			
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.022	0.025	KG/M3	0.357	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1746.3	2326.3	M/S	532.3	709.0	W (MODEL)	LB/S	3.1	3.1	KG/S	1.4	1.4			

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAID

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	95.2	94.7	95.2	97.4	99.4	113.6	102.5	106.9	111.2	116.4	120.0	147.9
.063	98.2	97.6	97.9	98.9	101.8	107.7	106.1	110.7	115.9	119.7	120.8	149.6
.080	99.5	99.1	99.0	101.0	103.3	104.9	106.8	112.1	118.7	122.1	122.1	151.6
.100	100.8	100.4	100.9	102.8	105.5	105.2	108.7	114.9	120.7	123.2	122.4	153.0
.125	101.3	101.9	102.2	104.1	107.2	106.6	110.0	115.9	121.7	124.0	122.2	153.8
.160	102.0	102.9	103.0	104.9	109.0	108.8	111.8	116.9	122.7	124.2	123.0	154.6
.200	102.5	104.6	104.5	105.8	109.7	108.9	112.2	116.3	122.1	124.3	123.2	154.4
.250	103.0	103.6	103.9	105.6	109.4	109.1	112.5	115.8	120.8	123.7	122.7	153.7
.315	102.1	103.3	103.9	105.6	109.5	108.9	112.3	115.2	119.1	122.3	121.6	152.6
.400	102.3	103.2	103.8	105.8	110.0	109.5	112.9	114.9	118.3	121.6	120.8	152.1
.500	102.8	103.4	103.7	106.0	110.1	109.9	113.0	114.7	117.7	120.9	120.1	151.7
.630	102.8	102.9	103.8	105.8	110.3	110.1	112.9	114.3	117.7	120.7	118.9	151.5
.800	102.9	102.6	103.5	106.1	110.2	110.2	112.8	113.6	117.8	120.0	117.3	151.1
1.00	102.2	102.5	103.2	105.9	110.3	110.3	112.8	113.9	118.2	118.8	115.9	150.8
1.25	101.2	102.2	103.2	105.9	110.7	110.6	112.7	114.1	118.1	117.3	114.0	150.4
1.60	100.1	102.1	102.9	105.6	110.3	110.4	112.4	114.1	117.1	116.1	112.4	148.7
2.00	101.1	101.3	102.3	105.0	109.9	109.9	112.0	113.3	115.5	114.2	110.9	148.3
2.50	101.1	101.9	101.9	104.7	109.2	109.2	111.3	112.9	114.1	113.1	109.4	147.9
3.15	98.7	100.2	101.3	104.0	107.4	107.6	109.5	110.9	112.2	111.5	107.5	146.1
4.00	96.3	96.4	100.1	103.0	106.5	106.5	108.4	110.0	111.6	110.6	106.4	145.2
5.00	94.9	96.9	98.3	101.6	105.6	105.6	107.1	108.8	110.8	109.2	104.9	144.1
6.30	93.5	95.8	97.1	100.9	104.9	105.2	106.8	108.4	110.3	108.6	104.2	143.6
8.00	92.8	94.1	95.9	99.7	103.7	103.8	105.9	107.9	109.9	108.8	103.9	142.9
10.0	90.8	92.7	94.8	98.0	102.4	103.0	105.1	107.3	110.1	108.9	103.6	142.5

OAPNL = 164.7

OASPL 114.4 115.1 115.7 118.0 122.1 122.6 124.6 127.3 131.8 133.9 132.9
 PNL 125.4 126.3 127.0 129.6 133.7 133.9 136.0 138.0 140.8 141.2 139.0

200. SIDELINE

PNL 116.6 118.4 119.5 122.2 126.2 125.9 127.2 128.1 129.1 127.2 121.6

370. SIDELINE

PNL 110.5 112.3 113.3 116.1 120.1 119.8 121.1 121.9 122.8 121.1 115.4

800. SIDELINE

PNL 101.9 103.8 104.9 107.6 111.6 111.3 112.4 113.1 114.1 112.8 106.9

2128. SIDELINE

PNL 88.6 90.5 91.8 94.5 98.6 98.2 99.2 100.0 102.1 100.9 94.7

C14

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 15

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	92.0(F)	33.3(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	120.2	114.1	KG/S	54.5	51.8
PRES	30.08IN	1.02BAR	P.R.		1.60	2.40		1.60	2.40	THRUST,IDL	LB	5997.1	8253.9	N	26676	36715
REL H	28.0Z		TEMP	(R)	1691.0	2003.	(K)	939.4	1112.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.027	0.025	KG/M3	0.428	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1606.0	2328.9	M/S	489.5	709.9	W (MODEL)	LB/S	3.3	3.2	KG/S	1.5	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ
(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	94.2	93.7	94.4	96.8	98.7	113.1	101.7	105.7	110.3	115.5	119.2	147.1
.063	97.5	97.0	97.2	98.4	101.3	107.2	105.1	109.5	114.7	118.7	120.2	148.7
.080	98.8	98.5	98.5	100.4	102.6	104.1	105.8	110.6	117.3	120.9	121.6	150.5
.100	100.2	99.7	100.2	102.1	104.7	104.4	107.8	113.2	118.9	122.1	122.0	151.8
.125	100.7	101.3	101.3	103.0	106.4	105.5	108.9	113.8	119.5	122.9	121.9	152.4
.160	101.5	102.1	102.3	103.9	107.9	107.8	110.7	114.4	120.0	123.0	122.2	152.9
.200	101.4	103.4	103.4	104.8	108.5	107.7	111.0	114.1	118.7	122.2	122.1	152.2
.250	101.8	102.5	102.9	104.7	108.3	107.8	111.1	113.9	117.5	121.2	121.2	151.4
.315	101.2	102.2	103.0	104.7	108.6	107.9	111.4	113.4	116.1	119.6	120.1	150.4
.400	101.5	102.4	103.1	105.2	109.0	108.6	111.9	113.3	115.5	119.1	119.6	150.2
.500	102.2	102.6	103.0	105.3	109.3	109.0	112.2	113.3	115.4	118.9	119.2	150.1
.630	102.3	102.5	103.2	105.4	109.6	109.4	112.2	113.1	115.8	119.2	118.5	150.3
.800	102.5	102.3	103.0	105.5	109.9	109.6	112.4	112.7	116.4	119.3	117.3	150.3
1.00	102.0	102.2	102.8	105.4	109.8	109.9	112.6	113.0	117.4	118.3	115.5	150.2
1.25	101.0	102.1	102.9	105.5	110.4	110.1	112.5	113.6	117.7	116.7	113.8	150.0
1.60	99.9	101.9	102.6	105.5	110.0	110.1	112.3	113.6	116.8	115.5	112.2	149.4
2.00	100.9	101.2	102.3	104.7	109.7	109.6	111.8	113.2	114.9	113.6	110.4	148.3
2.50	101.0	101.8	101.9	104.4	109.0	109.0	111.1	112.6	113.7	112.3	108.9	147.5
3.15	98.5	100.1	101.3	103.9	107.3	107.5	109.6	110.7	111.7	110.7	107.0	145.9
4.00	96.1	98.4	100.2	102.9	106.5	106.5	108.4	109.9	111.2	109.5	105.8	144.9
5.00	94.8	96.7	98.5	101.6	105.7	105.5	107.2	108.6	110.4	108.3	104.2	143.8
6.30	93.5	95.9	97.3	100.8	105.1	105.1	106.7	108.2	109.7	107.7	103.5	143.3
8.00	92.6	94.2	96.1	99.6	103.9	103.8	105.9	107.5	109.2	107.7	103.2	142.5
10.0	90.6	92.7	95.0	98.0	102.4	103.1	105.0	106.9	109.2	107.6	102.5	141.9

OAPHL = 163.4

OASPL 113.8 114.6 115.2 117.5 121.5 122.0 124.0 126.0 129.8 132.4 132.1
 PNL 125.1 126.1 126.8 129.3 133.4 133.5 135.7 137.3 139.7 140.0 138.2

200. SIDELINE

PNL 116.3 118.1 119.2 121.9 125.8 125.5 126.9 127.4 128.0 126.0 120.8

370. SIDELINE

PNL 110.2 112.0 113.1 115.7 119.8 119.4 120.7 121.1 121.7 119.6 114.5

800. SIDELINE

PNL 101.6 103.4 104.6 107.2 111.2 110.9 112.0 112.3 112.9 111.1 106.0

2120. SIDELINE

PNL 88.0 90.1 91.4 94.1 98.1 97.7 98.7 98.7 99.9 99.2 93.9

CIS

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 16

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	148.7	116.6	KG/S	67.4	52.9
PRES	30.08IN	1.02BAR	P.R.		1.59	2.40		1.59	2.40	THRUST,IDL	LB	5834.7	8439.8	N	25954	37542
REL H	32.0%		TEMP	(R)	1066.0	2003.	(K)	592.2	1112.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.042	0.025	KG/M3	0.681	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1263.6	2329.9	M/S	385.2	710.2	W (MODEL)	LB/S	4.1	3.2	KG/S	1.9	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160
.050	91.8	91.9	0.0	94.8	96.6	111.7	99.4	103.0	107.2	112.5	116.8
.063	95.2	94.9	0.0	96.5	99.4	106.0	102.7	105.9	110.8	115.6	117.6
.080	96.3	96.0	0.0	98.0	100.1	101.0	103.1	106.5	112.5	116.7	118.6
.100	97.7	97.5	0.0	99.5	102.2	101.7	104.6	108.6	113.2	116.8	118.7
.125	97.5	97.9	0.0	100.1	103.4	102.6	105.3	109.4	112.9	116.4	117.1
.160	97.2	98.3	0.0	100.6	104.3	103.9	107.0	110.3	112.8	114.2	115.4
.200	97.1	99.0	0.0	101.0	104.8	104.2	107.7	110.5	112.0	112.4	113.2
.250	97.5	99.0	0.0	101.4	105.4	104.8	108.5	110.9	111.7	111.6	112.1
.315	97.7	99.4	0.0	101.9	106.1	105.4	109.1	111.0	110.9	110.9	111.8
.400	98.9	100.3	0.0	103.1	107.0	106.5	110.6	111.4	111.3	111.8	113.0
.500	100.1	101.0	0.0	103.8	107.6	107.4	111.6	111.6	111.7	113.4	114.6
.630	101.2	101.5	0.0	104.1	108.3	108.2	112.1	112.2	112.9	115.6	116.0
.800	101.8	101.5	0.0	104.5	108.9	108.7	112.4	112.5	114.1	117.2	116.2
1.00	101.6	101.6	0.0	104.7	108.9	109.2	112.7	113.0	115.9	117.7	115.5
1.25	100.1	101.4	0.0	104.7	109.7	109.6	112.6	113.6	116.9	116.8	113.4
1.60	99.4	101.4	0.0	104.7	109.6	109.8	112.2	113.3	116.8	114.9	111.5
2.00	100.8	100.9	0.0	104.2	109.2	109.3	111.6	112.5	114.9	112.9	109.7
2.50	101.1	101.7	0.0	104.1	108.5	108.8	110.8	112.0	113.4	111.8	108.3
3.15	98.1	100.1	0.0	103.6	107.0	107.2	109.2	110.4	111.6	109.9	106.3
4.00	95.9	98.3	0.1	102.6	106.1	106.4	108.3	109.6	110.9	108.9	105.1
5.00	94.4	96.4	0.6	101.4	105.5	105.4	107.0	108.3	109.9	107.6	103.7
6.30	92.8	95.6	1.2	100.4	104.7	104.9	106.6	107.6	109.3	106.8	102.7
8.00	91.9	93.5	2.0	99.0	103.2	103.3	105.5	106.9	108.5	106.6	102.0
10.0	89.8	91.9	3.1	97.4	101.7	102.6	104.5	106.2	108.5	106.3	101.0

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OF POOR QUALITY

OAPHL = 160.5

OASPL	112.2	113.0	14.2	116.1	120.2	120.9	123.2	124.4	126.6	127.8	127.9
PNL	124.3	125.3	14.9	128.5	132.5	132.8	135.0	136.3	138.1	137.6	135.5

200. SIDELINE

PNL	115.5	117.3	0.0	121.0	124.9	124.8	126.2	126.3	126.4	123.4	117.6
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370. SIDELINE

PNL	109.3	111.1	0.0	114.8	118.8	118.6	120.0	120.0	120.0	116.8	111.0
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800. SIDELINE

PNL	100.6	102.5	0.0	106.2	110.2	110.0	111.3	111.1	111.1	107.7	101.9
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2128. SIDELINE

PNL	86.7	88.9	0.0	92.8	97.0	96.6	97.9	97.4	97.1	94.0	88.7
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C16

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 17

TEST DAY CONDITIONS				PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN						
TEMP	92.0(F)	33.3(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	201.1	111.6	KG/S	91.2	50.6
PRES	30.08IN	1.02BAR	P.R.		2.00	2.40		2.00	2.40	THRUST,IDL	LB	9681.5	8079.8	N	43065	35940
REL H	29.0%		TEMP	(R)	1110.0	2005.	(K)	616.7	1113.9	THRUST,HEA	LB		0.0	N		0.0
SDSPD	1151FPS	350M/S	RHO	LB/FT3	0.043	0.025	KG/M3	0.694	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1550.5	2331.3	M/S	472.6	710.6	W (MODEL)	LB/S	5.6	3.1	KG/S	2.5	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	93.9	93.7	94.8	97.1	99.1	112.9	101.5	104.7	109.3	115.3	120.1	147.2
.063	97.9	97.9	97.9	98.8	101.8	107.2	104.9	108.3	113.8	118.8	121.3	148.8
.080	99.4	99.1	99.3	100.6	102.5	103.8	105.4	109.1	115.8	121.0	123.0	150.5
.100	100.8	100.9	100.7	102.6	104.9	104.3	107.2	111.4	117.4	122.1	123.7	151.7
.125	101.3	101.2	101.7	103.0	106.3	105.1	107.7	111.9	117.5	123.1	123.5	152.2
.160	101.4	102.1	102.4	103.8	107.7	107.3	109.7	112.9	117.9	122.8	123.2	152.3
.200	101.4	103.1	103.2	104.6	108.1	107.2	110.2	113.0	116.9	122.0	122.7	151.7
.250	101.6	102.8	102.9	104.6	108.2	107.5	110.6	113.3	116.3	121.1	122.1	151.2
.315	101.4	102.5	103.2	104.6	108.4	107.6	110.8	113.0	115.4	119.2	120.9	150.2
.400	101.8	102.7	103.2	105.1	108.9	108.4	111.7	113.1	115.3	119.0	120.3	150.2
.500	102.5	103.1	103.2	105.4	109.3	108.9	112.4	113.2	115.2	119.0	119.7	150.2
.630	102.8	102.8	103.4	105.5	109.6	109.4	112.5	113.1	115.7	119.4	119.0	150.5
.800	103.2	102.7	103.1	105.6	109.9	109.7	112.7	112.9	116.4	119.5	117.3	150.5
1.00	102.8	102.9	103.2	105.8	109.8	110.0	113.0	113.3	117.4	118.6	115.8	150.4
1.25	101.6	102.5	103.4	105.9	110.6	110.4	112.9	113.7	117.9	117.0	114.1	150.2
1.60	100.2	102.2	102.9	105.6	110.3	110.5	112.5	113.5	117.0	115.6	112.2	149.6
2.00	100.3	101.6	102.5	104.9	109.7	109.9	112.2	113.2	115.1	113.9	110.7	148.5
2.50	99.5	100.9	101.9	104.7	109.1	109.4	111.4	112.7	113.8	112.5	109.2	147.7
3.15	97.5	99.2	100.5	103.9	107.5	107.7	109.8	110.8	111.9	110.8	107.0	146.0
4.00	96.1	98.1	99.7	102.7	106.7	106.9	108.8	110.0	111.3	109.8	105.9	145.1
5.00	94.6	96.7	98.2	101.4	105.7	105.9	107.4	108.7	110.3	108.7	104.4	143.9
6.30	93.3	95.8	97.1	100.8	104.9	105.2	107.0	108.3	109.6	107.9	103.6	143.4
8.00	92.6	94.0	95.9	99.5	103.7	103.9	106.1	107.5	109.2	107.9	103.3	142.6
10.0	90.8	92.7	94.9	98.0	102.4	103.1	105.0	107.0	109.3	107.8	102.8	142.0

OAPNL = 163.3

OASPL 114.0 114.8 115.3 117.5 121.5 122.1 124.0 125.6 129.1 132.4 133.1
 PNL 124.6 125.8 126.7 129.4 133.4 133.7 135.8 137.2 139.5 140.2 138.8

200. SIDELINE

PNL 115.9 117.8 119.2 121.9 125.9 125.7 127.0 127.2 127.8 126.1 121.4

370. SIDELINE

PNL 109.7 111.7 113.1 115.8 119.8 119.6 120.8 121.0 121.4 119.7 115.2

800. SIDELINE

PNL 101.1 103.3 104.6 107.3 111.3 111.0 112.1 112.1 112.7 111.1 106.7

2120. SIDELINE

PNL 88.2 90.2 91.6 94.2 98.2 97.8 98.7 98.4 99.1 99.2 94.6

C17

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 18

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	131.1	111.5	KG/S	59.5	50.6
PRES	30.08IN	1.02BAR	P.R.		1.40	2.40		1.40	2.40	THRUST,IDL	LB	4489.0	8074.0	N	19968	35915
REL H	30.0Z		TEMP	(R)	1099.0	2007.	(K)	610.6	1115.0	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.040	0.025	KG/M3	0.638	0.394	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1102.5	2332.6	M/S	336.0	711.0	W (MODEL)	LB/S	3.6	3.1	KG/S	1.7	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	90.8	90.7	91.5	93.8	95.6	110.7	98.3	102.2	105.9	111.2	115.0	
.063	93.9	93.4	94.1	95.4	98.1	104.9	101.5	104.9	109.6	113.8	115.5	
.080	94.9	94.8	95.2	96.8	99.1	99.9	101.9	105.5	111.0	114.7	116.1	
.100	96.0	95.9	96.4	97.7	100.8	100.3	103.4	107.3	111.7	114.3	115.8	
.125	95.7	96.4	96.7	98.8	101.9	101.3	104.1	108.1	111.5	113.3	113.1	
.160	95.5	96.9	97.7	99.5	103.1	102.7	105.9	109.5	111.5	111.2	110.6	
.200	95.8	97.5	98.2	99.8	103.6	103.0	106.7	109.9	110.7	109.8	108.4	
.250	96.4	97.9	98.6	100.5	104.3	103.9	107.8	110.4	110.5	109.3	108.0	
.315	96.5	98.5	99.7	101.1	105.2	104.7	108.8	110.7	110.2	108.8	108.2	
.400	98.0	99.4	100.2	102.2	106.3	105.9	110.4	111.2	110.7	110.1	110.2	
.500	99.3	100.3	100.6	102.9	107.1	107.0	111.5	111.7	111.6	111.8	112.4	
.630	100.4	100.8	101.6	103.5	107.9	107.9	112.1	112.4	112.9	114.4	114.5	
.800	101.5	101.2	101.7	104.0	108.4	108.6	112.5	112.8	114.2	116.5	115.5	
1.00	101.4	101.3	101.9	104.3	108.8	109.0	112.8	113.6	115.7	117.6	115.7	
1.25	100.4	101.2	102.1	104.5	109.6	109.5	112.7	114.1	116.8	117.3	113.9	
1.60	99.6	101.2	101.9	104.4	109.3	109.6	112.2	113.8	116.6	115.6	111.9	
2.00	100.5	100.6	101.5	103.9	108.9	109.1	111.7	112.5	114.5	113.1	110.1	
2.50	101.6	101.8	101.5	103.9	108.4	108.7	110.9	112.1	113.4	112.2	108.5	
3.15	98.8	100.8	101.6	103.3	106.9	107.2	109.3	110.7	111.4	110.2	106.5	
4.00	96.2	98.6	100.5	102.7	106.0	106.3	108.3	109.8	110.8	109.3	105.4	
5.00	94.9	96.6	98.5	101.6	105.5	105.4	107.3	108.5	109.8	107.9	104.0	
6.30	93.3	95.8	97.1	100.6	104.6	104.9	106.8	108.1	109.2	107.2	103.0	
8.00	92.3	93.9	95.7	99.1	103.4	103.5	105.8	107.4	108.5	107.1	102.4	
10.0	90.4	92.4	94.6	97.7	102.1	102.8	105.0	106.8	108.6	106.9	101.3	

OAPWL = 160.0

OASPL	111.8	112.6	113.3	115.6	119.8	120.5	123.1	124.4	126.1	126.8	126.0	
PNL	124.3	125.1	126.0	128.1	132.2	132.6	135.0	136.4	137.8	137.3	134.8	

200. SIDELINE

PNL	115.5	117.1	118.4	120.6	124.6	124.5	126.2	126.4	126.1	123.1	116.7	
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370. SIDELINE

PNL	109.3	110.9	112.2	114.4	118.5	118.4	120.0	120.1	119.7	116.6	109.9	
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800. SIDELINE

PNL	100.5	102.3	103.4	105.8	109.9	109.8	111.2	111.1	110.7	107.3	100.4	
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2128. SIDELINE

PNL	86.5	88.6	89.8	92.3	96.5	96.2	97.7	97.4	96.6	92.8	86.1	
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C18

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20185 CONDITION 19

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	90.0(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	171.0	109.1	KG/S	77.6	49.5			
PRES	30.07IN	1.02BAR	P.R.		2.08	2.10		2.08	2.10	THRUST,IDL	LB	10127.9	6627.2	N	45051	29479			
REL H	29.0Z		TEMP	(R)	1586.0	1646.	(K)	881.1	914.4	THRUST,MEA	LB		0.0	N		0.0			
SOSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.029	KG/M3	0.485	0.468	AREA (MDO)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1907.1	1956.3	M/S	581.3	596.3	W (MODEL)	LB/S	4.8	3.0	KG/S	2.2	1.4			

FAA DAY BAND 1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)

CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	94.7	93.4	95.4	97.0	99.3	113.6	102.1	106.1	111.0	116.1	120.9	148.0
.063	98.6	98.1	98.3	98.6	101.7	108.0	105.7	109.7	115.5	119.7	121.8	149.7
.080	99.4	99.1	99.3	100.9	103.0	105.0	106.4	111.1	118.5	122.5	123.4	151.9
.100	100.7	100.4	100.9	102.8	105.4	105.2	108.4	114.1	120.6	123.7	123.9	153.4
.125	101.3	101.6	102.2	103.5	107.1	106.2	109.4	115.7	122.4	124.9	123.3	154.5
.160	101.5	102.3	102.8	104.4	108.7	109.2	111.8	117.2	124.2	125.3	123.7	155.6
.200	102.1	103.7	104.2	105.3	109.2	109.0	112.3	117.4	124.4	125.4	123.5	155.7
.250	102.7	102.9	103.8	105.0	109.1	109.4	112.5	117.2	124.5	125.7	123.2	155.8
.315	101.6	102.6	103.7	105.0	109.0	109.1	112.7	116.8	123.5	124.5	121.9	154.9
.400	101.7	102.2	103.4	105.4	109.3	109.6	113.2	116.4	122.8	123.3	120.3	154.1
.500	102.1	102.2	103.2	104.9	109.4	109.8	113.4	116.1	121.5	121.3	118.5	152.9
.630	102.4	102.2	103.3	105.2	109.5	109.9	113.0	115.4	120.1	119.5	116.8	151.8
.800	102.4	102.1	103.0	104.3	109.2	109.8	112.6	114.4	118.4	117.9	115.1	150.5
1.00	101.5	101.6	102.7	104.8	109.0	109.5	112.4	113.7	117.2	116.8	113.8	149.7
1.25	99.9	101.0	102.4	104.6	109.4	109.4	112.0	112.7	115.7	115.4	112.3	148.8
1.60	98.8	100.5	101.9	103.9	108.7	108.9	110.9	111.4	114.3	114.1	111.0	147.6
2.00	98.7	99.6	101.0	103.3	107.9	108.0	110.3	110.2	113.0	112.5	109.1	146.5
2.50	97.3	98.7	100.2	102.5	106.9	107.2	109.3	109.0	111.5	111.1	107.6	145.4
3.15	95.5	96.9	98.6	101.5	105.0	105.5	107.4	106.9	109.1	109.2	105.3	143.4
4.00	94.0	95.6	97.6	100.0	103.7	104.0	105.7	106.0	108.4	108.0	104.4	142.2
5.00	92.7	94.2	96.2	98.5	102.8	102.9	104.4	104.4	107.3	106.8	102.8	141.0
6.30	91.2	93.2	95.1	97.7	101.9	102.0	103.6	103.5	106.4	106.1	101.8	140.1
8.00	90.1	91.4	93.8	96.2	100.5	100.3	101.9	102.2	105.6	105.9	101.7	139.8
10.0	88.3	90.0	92.6	94.6	98.9	99.2	101.1	101.3	106.0	106.5	101.5	138.6

OAPHL = 165.2

OASPL 113.6 114.1 115.1 116.9 121.0 122.0 124.1 127.3 133.3 134.6 133.2
 PHL 123.3 124.3 125.6 127.7 131.9 132.4 134.5 135.8 140.3 140.9 138.5

200. SIDELINE
 PHL 114.5 116.3 118.1 120.3 124.4 124.4 125.8 126.0 129.0 127.3 121.3

370. SIDELINE
 PHL 108.4 110.2 112.1 114.3 118.3 118.4 119.7 119.8 123.0 121.3 115.1

800. SIDELINE
 PHL 100.0 101.8 103.7 105.9 109.9 110.0 111.2 111.6 115.0 113.2 106.7

2128. SIDELINE
 PHL 87.6 89.3 91.0 93.2 97.3 97.2 98.7 100.0 103.7 101.7 94.9

C19

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 20

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	150.8	97.2	KG/S	68.4	44.1
PRES	30.07IN	1.02BAR	P.R.		1.93	1.93		1.93	1.93	THRUST, IDL	LB	8875.5	5701.3	N	39480	25360
REL H	30.0Z		TEMP	(R)	1723.0	1716.	(K)	957.2	953.3	THRUST, MEA	LB		0.0	N		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.027	0.027	KG/M3	0.437	0.439	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1894.7	1888.7	M/S	577.5	575.7	W (MODEL)	LB/S	4.2	2.7	KG/S	1.9	1.2

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	94.3	92.9	94.5	96.5	98.6	113.1	101.7	105.7	110.8	115.3	119.9	147.3
.063	97.7	97.1	97.5	97.9	101.0	107.6	105.3	109.3	115.2	119.1	120.7	149.1
.080	98.8	98.3	98.5	100.2	102.5	104.3	105.9	110.9	118.1	121.8	122.2	151.2
.100	100.1	99.7	100.2	102.2	104.7	104.7	108.1	114.0	120.2	122.7	122.8	152.6
.125	100.3	100.9	101.5	102.8	106.5	105.8	109.1	115.4	121.8	123.9	122.1	153.7
.160	100.7	101.6	102.3	103.8	108.1	108.5	111.2	116.9	123.4	124.2	122.6	154.7
.200	101.4	103.1	103.7	104.7	108.7	108.5	111.7	117.1	123.9	124.4	122.6	155.0
.250	101.9	102.3	103.2	104.4	108.5	108.8	112.1	116.9	123.7	124.8	122.4	155.1
.315	100.8	101.9	102.8	104.3	108.5	108.5	112.1	116.3	122.7	123.5	120.9	154.0
.400	100.7	101.4	102.6	104.5	108.8	109.0	112.5	115.9	121.5	121.8	118.8	152.9
.500	100.7	101.3	102.4	104.2	108.9	109.2	112.5	115.3	120.3	119.5	116.6	151.6
.630	100.8	100.9	102.4	104.2	108.8	109.2	112.3	114.4	118.5	117.2	114.2	150.3
.800	100.8	100.6	101.7	103.7	108.4	108.9	111.7	113.4	116.7	115.2	112.3	148.9
1.00	100.4	100.4	101.7	103.7	108.2	108.5	111.5	112.4	115.0	113.6	110.7	147.9
1.25	98.9	100.1	101.4	103.7	108.6	108.3	110.8	111.5	113.4	112.5	109.7	147.1
1.60	98.1	99.8	101.2	103.4	108.2	108.1	109.6	110.1	112.2	112.1	109.7	146.2
2.00	98.3	99.2	100.4	102.7	107.2	107.3	109.1	108.7	110.8	110.7	108.5	145.2
2.50	96.6	97.9	99.6	101.7	106.1	106.1	107.7	107.4	109.0	108.8	106.4	143.8
3.15	94.9	96.2	98.1	101.0	104.4	104.6	106.1	105.4	106.7	106.7	103.8	142.0
4.00	93.4	95.2	97.3	99.5	103.0	103.4	104.5	104.5	105.9	105.4	102.9	140.8
5.00	91.9	93.5	95.7	98.0	102.1	102.1	103.3	102.8	104.3	103.8	100.9	139.3
6.30	90.4	92.7	94.4	97.1	101.0	101.2	102.4	101.7	103.3	102.9	99.8	138.4
8.00	89.2	90.7	93.1	95.6	99.7	99.4	100.7	100.4	102.5	103.0	99.6	137.2
10.0	87.2	89.0	91.9	93.9	98.0	98.3	99.7	99.5	102.9	103.3	99.3	136.5

OAPHL = 164.3

OASPL	112.6	113.3	114.3	116.1	120.3	121.3	123.3	126.7	132.3	133.4	132.1
PNL	122.4	123.5	125.0	127.1	131.2	131.5	133.4	134.7	138.8	139.4	137.2

200. SIDELINE

PNL	113.7	115.5	117.4	119.7	123.7	123.6	124.7	124.8	127.5	125.7	120.0
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370. SIDELINE

PNL	107.6	109.4	111.4	113.6	117.6	117.5	118.6	118.8	121.7	119.8	113.8
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800. SIDELINE

PNL	99.2	101.0	103.0	105.2	109.2	109.1	110.1	110.8	113.8	111.7	105.5
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2128. SIDELINE

PNL	86.7	88.5	90.3	92.5	96.7	96.5	97.9	99.3	102.6	100.4	93.7
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20108F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 21

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	146.2	122.4	KG/S	66.3	55.5
PRES	30.07IN	1.02BAR	P.R.		1.79	2.35		1.79	2.35	THRUST, IOL	LB	7603.2	7963.9	N	33820	35425
REL H	29.0Z		TEMP	(R)	1515.0	1665.	(K)	841.7	925.0	THRUST, HEA	LB		0.0	N		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.490	0.475	AREA (HOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1675.0	2095.1	M/S	510.5	636.6	H (MODEL)	LB/S	4.1	3.4	KG/S	1.8	1.5

FAA DAY
BAND

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	93.8	93.0	94.6	96.4	98.6	112.6	101.2	105.1	109.7	114.9	119.6	146.9
.063	97.6	96.9	97.4	97.7	101.2	107.6	104.9	108.5	114.2	118.6	120.5	148.6
.080	98.5	98.1	98.5	100.0	102.3	104.1	105.7	109.7	116.8	121.0	122.1	150.5
.100	100.0	99.7	100.3	102.0	104.5	104.3	107.7	112.4	118.9	122.3	122.7	151.9
.125	100.3	100.9	101.5	102.7	106.3	105.6	108.4	113.4	119.9	123.4	122.4	152.8
.160	100.9	101.7	102.4	103.6	107.7	108.2	110.4	114.3	120.8	123.6	123.0	153.4
.200	101.1	103.0	103.6	104.5	108.3	107.8	110.8	114.1	120.0	123.1	122.6	153.0
.250	102.1	102.3	103.2	104.1	108.2	108.1	111.1	114.1	119.1	122.4	122.2	152.4
.315	101.2	102.0	103.1	104.2	108.2	107.9	111.2	113.5	117.4	120.9	121.0	151.2
.400	101.3	101.7	102.9	104.6	108.5	108.4	111.4	113.4	116.3	119.8	120.0	150.5
.500	101.8	102.0	102.8	104.4	108.7	108.7	111.7	113.2	115.6	119.0	119.2	150.0
.630	101.8	101.7	102.9	104.6	109.0	109.0	111.7	112.7	115.2	118.6	118.1	149.8
.800	101.9	101.5	102.4	104.2	108.8	108.9	111.5	112.2	114.7	118.1	117.0	149.3
1.00	101.2	101.3	102.2	104.2	108.5	108.8	111.5	111.8	115.0	117.5	115.7	149.0
1.25	100.0	100.9	102.0	104.2	109.1	108.9	111.3	111.5	115.1	116.1	113.0	148.5
1.60	99.0	100.4	101.6	103.7	108.4	108.6	110.6	110.6	114.6	114.8	112.4	147.7
2.00	100.0	100.1	101.1	103.2	107.7	108.0	110.2	110.2	113.5	113.2	110.6	146.8
2.50	99.6	100.4	100.9	102.5	107.1	107.3	109.4	109.6	111.9	111.9	107.2	145.8
3.15	96.9	98.3	99.8	102.0	105.2	105.9	107.7	107.6	109.6	110.1	107.0	144.0
4.00	94.8	96.6	98.3	100.9	104.3	104.6	106.3	106.8	109.3	108.9	106.0	143.0
5.00	93.7	95.0	97.0	99.4	103.2	103.7	105.1	105.1	107.7	107.6	104.3	141.6
6.30	92.1	94.2	95.9	98.5	102.5	102.9	104.6	104.5	107.1	106.9	103.3	141.0
8.00	90.9	92.3	94.6	97.0	101.2	101.3	103.1	103.5	106.5	106.7	103.3	140.0
10.0	89.1	90.9	93.3	95.4	99.6	100.2	102.1	102.5	106.5	106.9	102.8	139.4

OAPWL = 163.2

OASPL 113.3 113.8 114.8 116.4 120.5 121.3 123.1 125.0 129.6 132.7 132.6
 PNL 124.1 124.9 125.9 127.8 131.8 132.2 134.3 135.2 138.4 139.8 138.6

200. SIDELINE

PNL 115.3 116.9 118.3 120.3 124.3 124.2 125.5 125.2 126.8 125.8 121.2

370. SIDELINE

PNL 109.2 110.8 112.3 114.2 118.2 118.2 119.3 119.0 120.5 119.7 115.0

800. SIDELINE

PNL 100.6 102.3 103.8 105.7 109.8 109.7 110.7 110.3 111.8 111.4 106.5

2128. SIDELINE

PNL 87.5 89.1 90.8 92.8 96.9 96.7 97.6 97.8 99.9 99.6 94.3

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 22

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP 90.4(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	100.4	100.1	KG/S	45.6	45.4
PRES 30.07IN	1.02BAR	P.R.		1.36	2.09		1.36	2.09	THRUST,IDL	LB	3602.1	6669.0	N	16023	29665
REL H 29.0%		TEMP (R)	1323.0	1992.	(K)	735.0	1106.7		THRUST,MEA	LB		0.0	N		0.0
SDSPD 1149FPS	350M/S	RHO	LD/FT3	0.033	0.024	KG/H3	0.524	0.384	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
		VEL	FPS	1154.0	2145.7	M/S	352.0	654.0	W (MODEL)	LB/S	2.8	2.8	KG/S	1.3	1.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER
1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	90.5	89.8	90.6	92.3	94.6	109.3	97.4	100.7	104.9	109.4	113.4	142.1
.063	93.1	92.3	93.2	93.9	96.7	103.9	100.4	103.9	108.6	112.3	113.8	142.8
.080	93.9	93.9	94.2	95.7	98.3	99.1	101.0	104.7	110.3	113.3	114.6	143.6
.100	94.8	94.4	95.5	96.9	99.7	99.5	102.6	106.2	110.7	113.2	114.2	143.9
.125	94.7	95.2	95.7	97.6	100.9	100.4	103.1	106.8	110.2	112.1	112.0	143.3
.160	94.4	95.8	96.7	98.2	101.9	101.7	104.7	107.6	109.9	109.5	109.4	142.7
.200	94.3	96.0	97.1	98.3	102.2	101.8	105.2	107.8	108.8	107.8	107.0	142.2
.250	95.1	96.2	97.3	98.7	102.9	102.5	105.8	107.9	108.0	106.8	105.6	142.1
.315	94.8	96.7	98.2	99.4	103.5	103.1	106.8	108.0	107.5	105.8	105.0	142.2
.400	96.0	97.3	98.6	100.4	104.4	104.3	108.0	108.1	107.8	106.5	106.3	142.9
.500	96.9	97.9	99.1	100.8	105.3	105.1	108.8	108.5	108.3	107.8	107.9	143.7
.630	98.3	98.4	99.8	101.7	106.0	105.9	109.5	109.0	109.2	109.8	110.0	144.7
.800	99.2	98.8	99.8	101.6	106.3	106.6	109.7	109.8	110.3	111.6	111.3	145.4
1.00	99.2	98.9	99.9	102.0	106.6	106.8	109.8	110.6	111.9	113.2	112.2	146.2
1.25	98.0	98.8	100.0	102.3	107.2	107.1	109.8	111.0	112.4	113.5	111.9	146.5
1.60	96.5	98.4	99.6	102.0	106.8	107.1	109.2	110.2	111.8	112.5	109.9	145.8
2.00	96.7	97.6	99.2	101.7	106.3	106.5	108.7	109.0	110.8	110.2	107.7	144.7
2.50	95.7	96.9	98.6	101.1	105.7	106.1	107.9	108.3	109.6	108.8	106.4	143.9
3.15	93.8	95.4	97.1	100.4	103.9	104.5	106.2	106.5	107.4	106.9	104.3	142.1
4.00	92.5	94.3	96.4	98.9	103.0	103.5	105.0	105.8	106.6	105.7	103.5	141.1
5.00	91.2	92.9	95.3	97.6	102.1	102.5	103.9	104.3	105.4	104.4	101.7	139.9
6.30	89.8	91.9	93.8	96.9	101.1	101.6	103.2	103.5	104.4	103.4	100.7	139.1
8.00	88.8	90.2	92.7	95.5	99.8	100.0	101.7	102.5	103.7	103.1	100.1	138.0
10.0	87.0	88.7	91.5	94.0	98.4	99.0	101.0	101.6	103.5	102.6	98.8	137.1

OAPNL = 157.2

OASPL 109.2 109.9 111.2 113.3 117.5 118.4 120.4 121.3 122.9 123.8 123.7
 PNL 120.4 121.5 123.0 125.4 129.7 130.1 132.2 132.9 134.2 134.0 132.4

200. SIDELINE

PNL 111.6 113.5 115.5 118.0 122.1 122.1 123.4 122.9 122.5 119.9 114.4

370. SIDELINE

PNL 105.4 107.3 109.4 111.8 116.0 116.0 117.2 116.7 116.1 113.4 107.6

800. SIDELINE

PNL 96.7 98.7 100.8 103.3 107.5 107.4 108.5 107.8 107.0 104.1 97.6

2128. SIDELINE

PNL 83.2 85.6 87.6 90.0 94.2 94.0 95.0 94.3 93.0 89.4 83.5

C22

20188F Q1258 VCE PRI/FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 23

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	90.0(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	113.0	108.0	KG/S	51.3	49.0			
PRES	30.07IN	1.02BAR	P.R.		1.46	2.24		1.46	2.24	THRUST, TOL	LB	4624.3	7511.9	N	20570	33415			
REL H	29.0%		TEMP	(R)	1398.0	1992.	(K)	776.7	1106.7	THRUST, MEA	LB		0.0	N		0.0			
SDSPD	1149FPS	350M/S	RHO	LB/FT ³	0.032	0.024	KG/M ³	0.505	0.390	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1317.3	2239.7	M/S	401.5	682.6	W (MODEL)	LB/S	3.1	3.0	KG/S	1.4	1.4			

FAA DAY BAND CENTER FREQ (KHZ) 60 70 80 90 100 110 120 130 140 150 160

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

MICROPHONE ANGLES IN DEGREES

POWER 1E-12W

.050	91.8	91.2	92.4	94.1	96.0	111.1	98.9	102.5	106.8	111.6	116.1	144.2
.063	94.8	94.3	95.1	95.6	98.6	105.8	102.3	106.0	111.0	115.0	116.6	145.3
.080	96.0	95.8	96.1	97.5	100.1	101.3	102.9	106.8	112.9	116.8	117.8	146.5
.100	97.4	96.9	97.5	99.2	102.0	101.7	104.6	108.7	113.8	117.2	118.1	147.2
.125	97.2	97.8	98.2	99.6	103.2	102.6	105.4	109.1	113.2	116.9	117.1	147.0
.160	97.1	98.2	98.9	100.2	104.4	104.0	106.9	109.9	112.9	114.9	115.7	146.3
.200	96.8	98.5	99.3	100.5	104.5	103.9	107.4	109.9	111.5	112.9	113.7	145.3
.250	97.5	98.3	99.2	100.6	104.8	104.4	107.7	110.0	110.8	111.3	112.2	144.8
.315	97.0	98.5	100.6	101.3	105.5	105.0	108.5	109.8	110.0	110.3	111.3	144.7
.400	98.2	99.2	100.4	102.0	106.3	106.0	109.4	109.8	110.0	110.7	112.0	145.2
.500	99.1	99.8	100.8	102.6	107.0	106.8	110.0	110.1	110.4	112.0	113.4	145.9
.630	100.0	100.2	101.4	103.2	107.5	107.5	110.7	110.4	111.3	113.9	114.5	146.9
.800	100.8	100.3	101.2	103.1	107.8	108.1	110.8	110.6	112.1	115.1	114.8	147.4
1.00	100.4	100.4	101.2	103.4	107.9	108.2	111.0	111.2	113.8	115.9	114.3	147.9
1.25	99.1	100.1	101.2	103.6	108.7	108.6	111.1	111.7	114.7	115.1	112.5	148.0
1.60	98.1	99.7	101.0	103.3	108.3	108.6	110.4	111.3	114.6	113.6	110.9	147.4
2.00	98.3	99.2	100.3	102.8	107.7	108.0	110.1	110.6	113.6	111.8	109.0	146.5
2.50	97.9	98.5	100.0	102.3	107.2	107.5	109.4	109.8	111.7	110.5	107.7	145.5
3.15	96.5	97.4	98.7	101.7	105.5	106.0	107.9	108.3	109.6	108.6	105.4	143.9
4.00	94.5	96.6	98.4	100.4	104.5	105.1	106.7	107.7	109.1	107.5	104.6	143.0
5.00	93.0	91.8	97.1	99.5	103.7	104.3	105.5	106.3	107.9	106.3	102.8	141.8
6.30	91.6	93.7	95.8	98.5	102.8	103.4	105.8	105.5	107.1	105.4	101.7	141.1
8.00	90.6	91.9	94.4	97.1	101.6	101.9	103.8	104.6	106.5	105.3	101.3	140.1
10.0	88.8	90.6	93.4	95.7	100.2	101.2	102.9	104.0	106.6	104.8	100.2	139.4

OAPWL = 159.5

OASPL 111.1 111.7 112.9 114.8 119.2 120.0 121.9 122.9 125.4 127.0 127.3

PNL 122.4 123.2 124.6 126.9 131.3 131.7 133.7 134.5 136.6 136.4 134.8

200. SIDELINE

PNL 113.6 115.2 117.1 119.5 123.7 123.7 124.9 124.5 124.9 122.3 116.9

370. SIDELINE

PNL 107.4 109.1 111.0 113.3 117.6 117.6 118.7 118.3 118.5 115.8 110.2

800. SIDELINE

PNL 98.7 100.5 102.4 104.8 109.1 109.0 110.0 109.4 109.5 106.6 101.0

2128. SIDELINE

PNL 85.2 87.3 89.2 91.5 95.9 95.7 96.5 95.8 95.6 93.0 88.1

20188F Q1256 VCE PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/03/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 24

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	117.4	119.9	KG/S	53.2	54.4
PRES	30.10IN	1.02BAR	P.R.		1.52	2.49		1.52	2.49	THRUST,IDL	LB	5215.5	8822.9	N	23200	39246
REL H	30.0Z		TEMP	(R)	1502.0	1999.	(K)	834.4	1110.6	THRUST,NEA	LB		0.0	N		0.0
SDSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.025	KG/M3	0.474	0.399	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1431.0	2369.8	M/S	436.2	722.3	W (MODEL)	LB/S	3.3	3.3	KG/S	1.5	1.5

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	94.1	93.5	95.5	96.3	97.9	101.3	101.5	105.8	110.1	114.8	118.6	
.063	97.0	96.5	98.4	98.2	100.2	102.2	104.6	109.2	114.2	118.0	119.2	145.3
.080	98.3	97.8	99.8	100.1	101.2	102.5	105.4	110.2	116.6	120.1	120.2	147.9
.100	100.0	99.3	101.1	101.6	102.8	103.9	107.2	112.5	117.6	120.7	120.7	149.7
.125	99.8	100.4	102.1	102.4	104.1	105.2	108.1	113.2	117.8	121.6	120.7	150.6
.160	99.8	100.8	102.6	103.0	105.1	106.9	109.8	113.8	117.8	121.0	120.8	151.2
.200	100.0	101.8	103.6	103.5	105.4	106.7	110.3	113.9	116.6	120.1	120.3	151.1
.250	100.5	101.2	103.1	103.6	105.6	107.5	111.0	114.2	116.1	119.7	120.1	150.5
.315	100.0	101.2	103.6	103.9	105.9	107.8	111.6	114.2	115.6	119.5	119.8	150.4
.400	100.9	101.5	103.9	104.7	106.8	108.7	112.5	114.3	116.0	120.1	119.6	150.2
.500	101.8	102.2	104.1	105.0	107.3	109.4	113.2	114.5	117.1	120.7	119.2	150.7
.630	102.0	102.3	104.2	105.4	107.7	110.1	113.6	114.9	118.9	120.7	117.6	151.2
.800	102.2	101.9	104.1	105.3	108.0	110.4	113.7	115.0	119.7	119.3	115.6	151.7
1.00	101.6	101.9	104.3	105.5	108.1	111.0	113.8	115.8	120.0	117.5	113.8	151.5
1.25	100.5	101.6	104.2	105.6	108.6	111.0	113.5	116.2	118.6	115.9	112.0	151.4
1.60	100.2	101.5	104.2	105.6	108.5	110.9	113.4	116.4	116.9	114.8	110.7	150.6
2.00	101.5	102.0	103.8	105.1	107.9	110.5	112.8	115.4	115.6	113.0	108.9	150.0
2.50	100.8	101.9	104.0	104.8	107.5	110.0	112.1	114.3	114.4	112.0	107.4	149.0
3.15	98.3	100.2	103.1	104.6	106.1	108.5	110.6	112.4	112.5	110.1	105.5	148.2
4.00	96.5	98.7	102.2	103.5	105.3	107.7	109.4	111.9	112.1	109.3	104.6	146.6
5.00	95.7	97.6	100.6	102.4	104.8	107.1	109.4	110.9	111.5	108.2	103.3	145.8
6.30	94.7	97.2	100.2	101.9	104.3	106.6	108.3	110.8	111.0	107.7	102.8	144.9
8.00	94.4	95.9	99.5	101.2	103.7	105.6	107.6	110.6	111.0	108.0	103.3	144.6
10.0	93.1	95.2	99.0	100.4	103.1	105.6	107.3	110.7	111.6	108.6	103.9	144.3

OAPHL = 163.3

OASPL	113.4	114.1	116.4	117.4	119.7	122.0	124.8	127.4	130.1	131.7	131.0
PNL	125.0	126.1	128.5	129.7	131.9	134.2	136.6	139.0	140.4	139.7	137.4

200. SIDELINE

PNL	116.2	118.1	120.9	122.2	124.3	126.2	127.8	129.0	128.7	125.7	120.0
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370. SIDELINE

PNL	110.0	111.9	114.8	116.1	118.2	120.0	121.6	122.8	122.3	119.5	113.7
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800. SIDELINE

PNL	101.4	103.3	106.2	107.4	109.6	111.4	112.9	113.8	113.3	111.0	105.1
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2128. SIDELINE

PNL	87.9	89.9	92.8	94.1	96.3	97.9	99.5	100.4	100.3	98.7	92.6
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ORIGINAL PAGE IS
OF POOR
QUALITY

C24

20188F Q1256 VCE PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/03/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 25

PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	90.0(F)	32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	99.7	154.1	KG/S	45.2	69.9
PRES	30.10IN	1.02BAR	P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	4427.1	12674.4	N	19693	56378
REL H	29.0%		TEMP	(R)	1499.0	2014.	(K)	832.8	1118.9	THRUST,MEA	LB		0.0	N		0.0
SOSPD	1149FPS	350M/S	RHO	LB/FT3	0.030	0.026	KG/M3	0.475	0.420	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1429.5	2648.7	M/S	435.7	807.3	W (MODEL)	LB/S	2.8	4.3	KG/S	1.3	1.9

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	96.3	96.2	97.7	99.3	101.0	104.5	104.8	109.4	113.6	118.3	121.4	148.5
.063	99.0	99.2	100.3	101.2	102.9	105.0	107.8	112.8	117.7	121.0	121.7	150.9
.080	100.6	100.7	102.0	102.8	103.9	105.6	108.9	114.1	120.5	123.2	122.5	152.9
.100	102.7	102.3	103.0	104.6	105.7	107.1	110.8	116.7	121.5	124.2	122.8	154.0
.125	102.5	103.3	104.1	105.6	107.1	108.5	112.0	117.5	122.2	124.5	122.7	154.5
.160	102.9	104.0	105.0	106.3	108.6	110.3	113.7	118.3	122.1	124.6	123.3	154.9
.200	103.2	105.2	106.3	107.0	108.8	110.4	114.3	118.2	121.5	124.3	123.6	154.7
.250	104.3	104.9	106.0	107.1	109.3	111.3	115.1	118.4	121.2	125.2	124.7	155.2
.315	103.9	105.0	106.6	107.6	109.5	111.6	115.6	118.2	121.2	125.5	124.6	155.3
.400	104.4	105.1	106.7	108.4	110.5	112.5	116.5	118.3	121.8	125.4	123.8	155.5
.500	104.9	105.7	106.7	108.3	110.7	113.1	116.9	118.4	122.3	124.5	121.6	155.2
.630	104.9	105.2	107.1	108.7	111.0	113.5	117.0	118.6	122.7	122.9	119.4	154.9
.800	105.1	105.0	106.7	108.6	111.2	113.9	117.1	118.9	122.3	121.2	117.4	154.3
1.00	105.9	105.5	106.8	108.9	111.4	114.2	117.6	119.6	121.7	119.7	115.8	154.1
1.25	106.5	106.5	107.3	109.0	111.9	114.2	117.3	119.6	120.1	118.3	114.1	153.4
1.60	105.7	107.7	108.1	109.4	111.9	114.2	117.3	119.2	119.0	117.2	112.7	153.0
2.00	104.7	107.0	108.7	109.3	111.4	113.4	116.8	118.0	117.5	115.6	111.0	152.0
2.50	104.9	105.7	107.6	109.2	111.2	112.9	115.7	116.8	116.7	114.6	109.6	151.2
3.15	105.0	105.6	106.2	108.6	109.8	111.3	114.1	115.3	114.8	112.9	107.9	149.7
4.00	102.3	105.5	107.2	107.5	108.9	110.6	113.0	114.7	114.6	112.2	107.1	149.0
5.00	101.2	103.4	106.1	107.3	108.6	110.1	112.4	114.0	114.0	111.2	106.0	148.3
6.30	100.6	102.9	104.9	107.1	108.2	109.8	112.4	114.1	113.6	111.0	105.7	148.2
8.00	100.3	102.0	104.4	106.2	107.8	109.2	112.0	113.9	114.0	111.3	106.4	147.9
10.0	99.1	101.6	104.4	105.8	107.4	109.4	112.3	114.3	114.7	112.0	107.0	148.2

OAPHL = 166.9

OASPL	117.4	118.4	119.8	121.2	123.2	125.3	128.6	131.0	133.7	135.4	134.0
PNL	129.7	130.7	132.3	133.7	135.5	137.3	140.3	142.2	143.3	143.1	140.5

200. SIDELINE

PNL	120.8	122.6	124.6	126.2	127.9	129.3	131.5	132.2	131.7	129.4	123.2
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370. SIDELINE

PNL	114.5	116.4	118.4	120.0	121.8	123.2	125.3	125.9	125.3	123.2	116.9
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800. SIDELINE

PNL	105.6	107.6	109.7	111.4	113.2	114.5	116.6	117.1	116.4	114.9	108.4
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2128. SIDELINE

PNL	91.9	94.4	96.5	97.9	99.8	101.3	103.3	103.8	104.1	102.9	96.2
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C25

20192F Q1472 VCE MODEL NOZ. PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/10/78 SCALE RATIO 6.0/1 RUN NUMBER 20192 CONDITION -26

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	126.0	182.2	KG/S	57.2	82.6
PRES	30.18IN	1.02BAR	P.R.		1.58	2.39		1.58	2.39	THRUST,IDL	LB	5688.3	8157.4	N	25393	36226
REL H	17.0%		TEMP	(R)	1420.0	783.	(K)	788.9	435.0	THRUST,MEA	LB	0.0	0.0	N	0.0	0.0
SDSFD	1146FPS	349M/S	RHO	LB/FT3	0.032	0.065	KG/M3	0.508	1.041	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1453.7	1442.0	M/S	443.1	439.5	W (MODEL)	LB/S	3.5	5.1	KG/S	1.6	2.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	90.6	90.4	91.8	93.2	94.7	114.0	97.8	102.4	106.7	111.9	115.6	
.063	93.7	93.8	94.7	95.5	97.6	107.8	101.7	106.2	110.6	115.2	116.0	
.080	95.1	95.6	96.2	97.3	98.2	101.0	102.5	107.0	113.1	117.1	118.5	
.100	97.7	97.6	97.8	99.2	100.0	102.0	104.6	109.9	115.2	119.4	119.1	
.125	96.9	97.5	97.6	99.5	101.0	102.8	105.3	110.5	115.9	119.9	119.0	
.160	97.7	98.6	98.9	100.8	102.5	105.0	106.9	111.3	116.4	119.4	118.9	
.200	97.3	98.6	99.5	100.6	101.9	104.3	106.8	110.7	114.9	117.6	117.3	
.250	96.6	97.7	98.7	99.7	101.8	103.9	106.7	110.5	113.4	115.4	115.2	
.315	95.4	96.8	98.0	99.2	101.3	103.4	106.5	109.9	111.9	112.2	112.2	
.400	95.2	96.4	97.5	99.2	101.2	103.5	106.5	109.7	110.7	110.6	109.4	
.500	95.6	96.4	97.3	99.0	101.1	103.4	106.3	109.1	109.4	108.8	106.9	
.630	96.0	96.2	97.4	99.1	100.8	103.0	105.8	108.2	103.2	106.5	104.8	
.800	96.5	96.1	96.7	98.5	100.3	102.5	104.9	107.1	106.7	105.0	103.4	
1.00	96.2	96.0	96.3	98.2	100.0	102.0	104.4	106.4	105.1	103.5	102.2	
1.25	95.5	96.0	96.2	97.8	99.4	101.5	103.7	105.2	104.0	102.2	101.2	
1.60	96.4	96.5	96.2	97.4	98.9	100.9	102.7	103.9	102.5	101.4	100.0	
2.00	102.1	100.1	97.4	97.2	98.5	99.8	102.1	102.8	101.5	99.8	98.6	
2.50	103.4	103.6	101.6	99.2	98.5	99.2	101.2	102.1	100.6	98.8	97.0	
3.15	100.2	102.2	102.6	102.6	99.3	98.7	100.4	101.1	99.1	97.8	95.8	
4.00	98.7	99.9	101.2	103.1	101.5	100.0	100.4	101.6	100.1	98.3	96.7	
5.00	93.8	99.8	100.4	102.3	102.2	101.7	100.9	101.6	100.5	99.2	98.0	
6.30	97.8	99.8	100.8	103.2	102.3	103.3	102.6	102.1	100.7	99.8	99.0	
8.00	97.7	98.9	100.4	104.0	101.6	102.7	103.1	102.5	100.6	100.1	99.8	
10.0	96.5	98.1	99.9	104.3	101.3	101.8	101.0	101.7	100.3	99.8	98.5	

OAPWL = 158.3

OASPL	111.6	112.2	112.5	114.2	114.4	118.4	118.0	121.1	124.3	127.1	127.1
PNL	125.3	125.8	126.0	127.1	126.6	127.7	128.3	130.1	130.5	131.6	131.0

200. SIDELINE

PNL	116.4	117.7	118.3	119.5	118.9	119.5	119.4	120.0	119.1	117.9	113.7
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370. SIDELINE

PNL	110.1	111.5	112.0	113.1	112.5	113.1	113.2	113.8	113.2	111.9	107.5
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800. SIDELINE

PNL	101.1	102.6	103.1	104.1	103.5	104.2	104.5	105.4	105.1	103.8	99.1
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2128. SIDELINE

PNL	86.6	88.4	88.7	89.6	89.6	91.5	92.2	93.6	93.7	92.5	87.5
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C26

20188F Q1259 VCE PRI/FAN NOZ NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 27

TEST DAY CONDITIONS		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN		PRIMARY FAN							
TEMP	90.0(F) 32.2(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	110.5	155.2	KG/S	50.1	70.4
PRES	29.75IN 1.01BAR	P.R.		1.61	3.24		1.61	3.24	THRUST,IDL	LB	5163.2	12759.1	N	22967	56755
REL H	30.0%	TEMP	(R)	1470.0	1995.	(K)	816.7	1108.3	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1149FPS 350M/S	RHO	LB/FT3	0.031	0.027	KG/M3	0.492	0.426	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
		VEL	FPS	1504.3	2647.9	M/S	458.5	807.1	W (MODEL)	LB/S	3.1	4.3	KG/S	1.4	2.0

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ) 60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050 96.2 95.1 96.8 98.5 100.8 114.1 103.5 107.1 111.9 117.5 121.4
.063 99.5 98.9 99.3 99.7 103.3 108.6 106.8 110.4 116.4 120.6 122.2
.080 100.5 99.9 100.3 102.0 104.5 105.7 107.6 111.8 119.1 123.0 123.4
.100 101.9 101.7 102.4 103.5 106.8 106.3 109.6 114.4 120.9 124.2 124.3
.125 102.3 102.4 103.3 104.5 108.2 106.9 110.2 115.0 120.8 124.6 123.9
.160 102.9 103.4 104.2 105.3 109.6 109.3 112.3 116.1 121.0 124.3 124.0
.200 102.9 104.7 105.2 106.3 110.3 109.3 113.1 116.1 119.9 123.7 123.9
.250 103.9 104.7 105.4 106.3 110.6 110.0 113.5 116.3 119.3 123.8 124.1
.315 103.7 104.5 105.8 106.7 111.0 110.2 114.3 116.3 118.9 123.4 123.8
.400 104.2 104.6 105.7 107.2 111.6 111.3 115.1 116.5 119.8 124.3 123.8
.500 104.8 105.0 105.6 107.3 112.0 111.8 116.0 117.2 120.9 124.5 123.0
.630 105.0 104.9 106.0 107.7 112.6 112.5 116.6 117.5 122.6 124.3 121.0
.800 105.6 104.9 105.8 107.9 112.8 112.9 116.7 117.8 123.0 122.6 118.7
1.00 108.6 106.0 106.2 108.1 113.0 113.0 116.9 118.8 122.7 120.5 117.0
1.25 108.7 108.7 107.6 108.5 113.8 113.6 117.0 119.4 121.2 119.1 115.1
1.60 106.0 108.3 109.2 109.0 113.6 113.6 116.7 119.0 119.5 118.1 113.7
2.00 104.8 106.1 107.9 109.7 113.5 113.2 116.1 117.9 118.3 116.4 112.2
2.50 104.8 105.8 106.7 108.8 113.5 112.7 115.2 117.0 117.3 115.2 110.9
3.15 103.2 104.5 105.8 108.1 111.9 111.3 113.8 115.3 115.4 113.9 109.1
4.00 101.6 103.7 105.3 107.0 111.0 110.8 112.7 114.6 115.2 112.9 108.3
5.00 100.5 102.2 104.1 106.0 110.5 109.9 111.6 113.6 114.3 111.7 107.2
6.30 98.8 101.2 103.3 105.5 109.9 109.5 111.4 113.5 113.8 111.3 106.0
8.00 97.8 99.6 101.8 104.2 108.8 108.0 110.8 113.1 113.9 111.2 106.0
10.0 95.9 98.2 100.6 103.2 107.7 107.7 110.3 113.1 114.0 111.6 105.1

148.9
150.5
152.4
153.8
154.0
154.2
153.8
153.8
153.7
154.3
154.7
155.1
154.7
154.3
153.9
153.2
152.2
151.5
149.9
149.2
148.2
147.9
147.3
147.0

OAPHL = 166.6

OASPL 117.6 118.1 118.9 120.4 124.8 124.9 127.8 129.9 133.1 135.2 134.5
PHL 129.1 130.0 131.1 132.9 137.3 136.9 139.6 141.6 143.3 143.1 141.0

200. SIDELINE

PHL 120.3 122.0 123.5 125.5 129.7 128.9 130.8 131.6 131.7 129.2 123.7

370. SIDELINE

PHL 114.2 115.9 117.4 119.3 123.6 122.8 124.6 125.3 125.3 123.0 117.4

800. SIDELINE

PHL 105.5 107.3 108.8 110.7 115.0 114.2 115.9 116.4 116.3 114.6 108.8

2128. SIDELINE

PHL 92.2 94.4 96.0 97.5 101.5 100.8 102.5 102.9 103.6 102.4 96.4

C27

20188F Q1257 VCE PRI./FAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION 28

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	106.9	191.5	KG/S	48.5	86.9
PRES	30.08IN	1.02BAR	P.R.		1.58	3.21		1.58	3.21	THRUST,IDL	LB	4909.4	12524.6		N	21838 55712
REL H	29.0%		TEMP	(R)	1471.0	1284.	(K)	817.2	713.3	THRUST,HEA	LB		0.0		N	0.0
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.031	0.042	KG/M3	0.489	0.676	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1478.5	2105.8	M/S	450.6	641.8	W (MODEL)	LB/S	3.0	5.3	KG/S	1.3	2.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	93.8	93.5	94.9	97.2	99.2	112.9	101.7	105.8	110.1	115.6	119.9	147.3
.063	97.7	97.4	97.7	99.2	101.9	107.7	105.1	108.9	114.4	118.9	120.9	148.9
.080	98.7	99.0	99.3	100.7	102.7	104.1	106.0	110.2	117.1	121.5	122.6	150.9
.100	101.0	100.8	100.7	102.8	105.1	104.6	107.7	112.8	119.2	122.7	123.2	152.3
.125	101.1	101.3	101.4	103.4	106.8	105.8	108.6	113.6	119.5	123.4	122.7	152.6
.160	101.9	102.5	102.8	104.4	108.3	108.3	110.8	114.7	119.7	122.9	122.8	152.9
.200	101.9	103.2	103.8	105.1	108.6	107.8	111.0	114.7	118.5	121.7	122.1	152.1
.250	102.4	103.3	103.6	105.0	108.9	108.2	111.3	114.6	117.5	120.9	121.7	151.6
.315	102.4	103.4	103.8	105.2	109.0	108.1	111.6	114.4	116.4	119.7	121.2	150.9
.400	102.7	103.2	103.8	105.8	109.7	109.0	112.3	114.4	116.4	120.1	121.5	151.2
.500	103.7	103.8	103.9	105.8	109.8	109.2	112.6	114.4	116.4	120.6	121.8	151.4
.630	104.5	104.0	104.2	106.0	110.0	109.8	112.9	114.5	117.4	122.1	121.9	152.3
.800	107.7	104.5	104.1	105.9	110.0	109.7	112.9	114.1	117.7	122.0	120.5	152.1
1.00	113.5	109.9	106.0	106.0	109.8	109.7	113.1	114.1	118.4	120.5	118.4	151.9
1.25	111.3	111.9	110.4	108.1	110.7	109.8	112.9	114.3	118.4	118.6	116.7	151.6
1.60	108.1	110.4	110.6	110.3	111.3	109.9	112.5	113.9	117.4	117.5	115.0	151.0
2.00	107.9	108.0	108.6	109.9	112.0	109.7	112.2	113.3	116.0	116.0	113.6	150.1
2.50	107.7	108.7	107.8	109.0	112.2	109.7	111.6	112.7	114.7	114.8	112.2	149.5
3.15	105.7	106.6	107.3	108.3	110.8	108.8	110.3	111.1	112.9	113.3	110.4	148.1
4.00	104.1	105.8	106.2	107.4	109.7	108.8	109.4	110.2	112.4	112.4	109.6	147.3
5.00	102.7	104.3	105.0	106.6	109.1	108.2	108.6	109.3	111.7	111.3	108.4	146.4
6.30	101.2	103.5	104.1	106.0	108.4	107.3	108.3	108.7	111.1	110.9	107.8	145.8
8.00	100.3	101.8	102.7	104.7	107.3	105.8	107.3	108.2	110.7	110.9	107.5	145.0
10.0	98.5	100.4	101.7	103.6	106.4	105.3	106.3	107.5	110.8	110.8	107.0	144.4

OAPNL = 164.4

OASPL 119.5 119.4 119.1 120.0 122.9 122.5 124.5 126.6 130.3 133.3 133.5

PNL 131.1 131.8 131.7 132.8 135.7 134.3 136.2 137.8 140.6 142.0 140.6

200. SIDELINE

PNL 122.3 123.8 124.1 125.3 128.1 126.3 127.4 127.8 128.9 127.8 123.1

370. SIDELINE

PNL 116.1 117.6 117.9 119.1 122.0 120.2 121.2 121.5 122.5 121.3 116.6

800. SIDELINE

PNL 107.3 109.0 109.2 110.5 113.4 111.6 112.5 112.7 113.6 112.7 107.8

2128. SIDELINE

PNL 94.1 95.6 96.3 97.2 99.8 98.0 99.1 99.4 100.2 100.0 95.0

C28

20195F Q1261 VCE MODEL JET PRI/FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/26/78 SCALE RATIO 6.0/1 RUN NUMBER 20195 CONDITION 29

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	88.0(F)	31.1(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	206.3	114.5	KG/S	93.6	51.9
PRES	29.82IN	1.01BAR	P.R.		2.39	2.40		2.39	2.40	THRUST,IDL	LB	12710.4	8263.6	N	56539	36758
REL H	34.0Z		TEMP	(R)	1466.0	1994.	(K)	814.4	1107.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1147FPS	349M/S	RHD	LB/FT3	0.034	0.025	KG/M3	0.546	0.396	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1984.1	2324.3	M/S	604.7	708.5	W (MODEL)	LB/S	5.7	3.2	KG/S	2.6	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60 70 80 90 100 110 120 130 140 150 160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	98.1	97.0	98.3	100.4	101.2	119.5	104.7	109.1	113.9	119.0	123.9	
.063	102.0	101.0	101.2	101.4	103.6	112.1	108.3	112.9	118.3	122.8	124.4	152.0
.080	102.5	102.8	102.5	103.7	104.2	110.5	108.5	113.7	121.1	125.0	126.9	152.7
.100	103.7	103.8	104.0	105.3	106.1	107.6	110.3	117.1	123.4	126.7	126.6	154.8
.125	104.2	104.1	104.5	106.2	107.5	108.8	111.6	117.8	124.9	127.7	126.5	156.2
.160	104.3	105.0	105.4	106.8	108.6	111.3	113.5	119.6	126.7	128.1	126.3	157.2
.200	104.7	106.0	106.4	107.2	108.8	111.3	114.1	120.0	127.3	128.1	125.6	158.1
.250	104.3	105.3	106.0	107.1	109.1	111.4	114.5	119.8	127.5	128.4	124.9	158.4
.315	105.3	105.4	106.4	107.3	109.0	111.3	114.7	119.6	127.5	127.2	123.1	158.5
.400	109.8	108.3	107.3	108.0	109.6	111.8	115.3	119.5	127.1	126.1	121.5	157.9
.500	113.0	112.3	110.6	109.0	109.7	112.2	115.3	119.3	126.0	124.1	119.8	157.4
.630	111.4	112.1	112.6	112.3	110.6	112.5	115.7	118.8	124.9	122.4	118.4	156.5
.800	109.1	109.3	110.4	112.4	112.3	113.0	115.3	118.1	123.5	120.9	116.5	155.8
1.00	107.9	108.1	108.4	110.6	112.5	113.8	115.4	117.6	122.5	119.5	114.8	154.7
1.25	105.8	107.0	107.8	109.5	111.1	114.1	115.6	117.3	121.2	118.4	113.0	153.8
1.60	104.2	105.6	106.8	108.9	110.4	113.2	115.1	116.4	119.7	116.4	111.6	153.0
2.00	103.0	104.4	105.5	107.8	109.6	112.1	114.5	115.7	118.3	114.7	109.8	151.8
2.50	101.5	103.2	104.3	106.8	108.8	111.1	113.1	114.6	117.1	113.6	108.0	150.7
3.15	99.5	101.0	102.6	105.8	106.9	109.6	111.2	112.5	115.1	111.7	105.9	149.6
4.00	97.7	99.7	101.4	104.2	106.0	108.2	109.7	111.7	114.8	110.7	105.0	147.7
5.00	96.1	97.9	99.7	102.6	104.2	106.8	108.3	110.3	113.7	109.5	103.5	146.8
6.30	94.4	96.7	98.6	101.6	103.3	106.0	107.8	109.7	113.0	108.9	102.9	145.5
8.00	93.1	94.8	97.0	100.0	101.5	104.2	106.6	109.0	112.7	109.0	103.4	144.8
10.0	91.4	93.3	95.3	98.1	100.3	103.2	105.6	108.4	112.9	109.1	103.8	144.0

OAPNL = 168.4

OASPL	119.6	119.8	120.0	121.2	122.3	125.8	126.8	130.6	137.0	137.3	135.6
PNL	128.5	129.1	129.9	131.9	133.4	136.1	137.9	140.5	144.9	143.7	140.1

200. SIDELINE

PNL	119.9	121.1	122.4	124.5	125.9	128.1	129.2	130.5	133.5	130.0	122.9
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370. SIDELINE

PNL	114.1	115.2	116.4	118.5	119.9	122.0	123.0	124.4	127.5	124.0	116.8
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800. SIDELINE

PNL	106.2	107.3	108.4	110.1	111.5	113.6	114.5	115.7	119.4	115.9	108.5
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2120. SIDELINE

PNL	94.8	95.9	96.8	97.9	98.7	101.0	101.5	103.6	107.7	104.5	96.9
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20188F Q1258 VCE PRI/TAN NOZ. NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/05/78 SCALE RATIO 6.0/1 RUN NUMBER 20188 CONDITION . 30

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	91.0(F)	32.8(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	164.2	105.1	KG/S	74.5	47.7
PRES	30.07IN	1.02BAR	P.R.		2.00	1.99		2.00	1.99	THRUST,IDL	LB	9428.6	6047.8	N	41940	26902
REL H	29.0Z		TEMP	(R)	1571.0	1580.	(K)	872.8	877.8	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1150FPS	350M/S	RHO	LB/FT3	0.030	0.030	KG/M3	0.485	0.482	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1849.4	1852.5	M/S	563.7	564.7	W (MODEL)	LB/S	4.6	2.9	KG/S	2.1	1.3

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	93.9	92.7	94.4	96.2	98.4	112.5	101.3	105.0	110.1	115.1	119.9	147.0
.063	97.5	97.1	97.3	97.6	101.0	107.6	104.9	108.6	114.7	118.8	120.6	148.8
.080	98.5	98.2	98.5	100.0	102.2	104.2	105.6	110.2	117.3	121.4	122.4	150.9
.100	100.1	99.5	100.2	101.9	104.4	104.4	107.7	113.3	119.7	122.8	122.9	152.5
.125	100.3	100.6	101.3	102.6	106.2	105.5	108.6	114.6	121.3	123.9	122.6	153.5
.160	100.6	101.5	101.9	103.5	107.7	108.4	110.7	116.1	122.8	124.2	122.9	154.4
.200	101.3	103.0	103.4	104.4	108.3	108.2	111.3	116.2	123.2	124.4	122.7	154.7
.250	101.8	102.0	102.8	104.0	108.2	108.4	111.6	115.9	123.0	124.6	122.5	154.6
.315	100.5	101.5	102.6	103.9	108.0	107.9	111.7	115.4	121.8	123.3	120.9	153.5
.400	100.3	101.0	102.2	104.1	108.1	108.4	111.9	115.1	120.6	121.7	118.8	152.3
.500	100.5	100.9	102.0	103.7	108.3	108.6	112.0	114.8	119.3	119.4	116.5	151.0
.630	100.5	100.6	101.9	103.9	108.3	108.6	111.8	113.9	117.8	117.1	114.0	149.8
.800	100.7	100.2	101.6	103.5	108.0	108.5	111.4	112.9	116.0	115.3	112.1	148.6
1.00	100.2	100.2	101.3	103.4	107.8	108.1	111.0	112.0	114.3	113.6	110.7	147.5
1.25	98.9	99.8	101.2	103.4	108.3	108.1	110.4	111.1	112.8	112.3	109.9	146.7
1.60	98.4	100.0	101.2	103.2	108.0	107.8	109.6	109.8	111.6	112.1	109.9	146.0
2.00	98.5	99.3	100.3	102.4	106.9	107.0	108.9	108.5	110.2	110.3	108.4	144.9
2.50	96.9	98.0	99.6	101.6	106.0	106.1	107.8	107.2	108.5	108.7	106.4	143.6
3.15	95.2	96.4	97.9	100.8	104.1	104.3	106.0	105.1	106.0	106.4	103.8	141.7
4.00	93.7	95.2	97.4	99.2	102.7	103.1	104.4	104.3	105.4	105.2	102.6	140.5
5.00	92.2	93.8	95.8	98.0	101.9	101.9	103.1	102.7	103.7	103.7	100.6	139.1
6.30	90.7	92.9	94.7	97.2	101.0	101.1	102.3	101.6	102.5	102.7	99.6	138.2
8.00	89.5	90.9	93.5	95.8	99.6	99.4	100.6	100.3	101.8	102.6	99.3	137.0
10.0	87.7	89.6	92.2	94.1	98.2	98.4	99.8	99.3	102.0	102.9	99.6	136.3

OAPWL = 163.9

OASPL	112.5	113.1	114.1	115.8	120.0	121.0	122.9	126.0	131.6	133.3	132.2
PHL	122.5	123.5	124.9	126.9	131.0	131.3	133.2	134.2	138.1	139.2	137.2

200. SIDELINE

PHL	113.8	115.5	117.3	119.4	123.4	123.4	124.5	124.4	126.9	125.6	120.0
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370. SIDELINE

PHL	107.7	109.4	111.3	113.4	117.4	117.3	118.4	118.3	121.0	119.6	113.9
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800. SIDELINE

PHL	99.2	101.0	102.9	105.0	109.0	108.9	109.9	110.2	113.1	111.6	105.6
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2128. SIDELINE

PHL	86.5	88.3	90.1	92.2	96.4	96.1	97.5	98.7	101.9	100.3	93.8
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C30

20192F Q1472 VCE MODEL NOZ. PRI./FAN NO EJECTOR

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/18/78 SCALE RATIO 6.0/1 RUN NUMBER 20192 CONDITION 38

TEST DAY CONDITIONS				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN				PRIMARY FAN			
TEMP	89.0(F)	31.7(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	101.5	115.9	KG/S	46.0	52.6			
PRES	30.18IN	1.02BAR	P.R.		1.39	2.41		1.39	2.41	THRUST,IDL	LB	4005.2	8405.8	N	17816	37391			
REL H	17.0Z		TEMP	(R)	1477.0	2004.	(K)	820.6	1113.3	THRUST,MEA	LB		0.0	N		0.0			
SDSPD	1148FPS	349M/S	RHO	LB/FT3	0.029	0.025	KG/M3	0.472	0.395	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005			
			VEL	FPS	1270.4	2334.9	M/S	307.2	711.7	W (MODEL)	LB/S	2.8	3.2	KG/S	1.3	1.5			

FAA DAY
BAND
CENTER FREQ
(KHZ)

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)

	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
.050	93.2	92.9	93.5	94.9	96.4	116.2	99.7	104.4	108.4	113.6	116.7	147.3
.063	95.8	95.7	96.2	96.7	98.5	108.9	103.0	107.9	112.5	116.8	117.0	146.8
.080	96.8	96.6	96.9	98.5	99.4	102.5	103.5	108.4	114.2	117.8	118.6	147.6
.100	98.4	98.0	98.7	99.9	100.9	102.7	105.3	110.7	115.0	118.7	118.3	148.4
.125	97.7	98.4	98.9	100.4	101.9	103.4	105.9	110.8	114.3	117.7	117.5	147.8
.160	97.9	99.0	99.7	101.0	102.9	104.9	107.4	111.5	114.0	115.9	115.7	147.2
.200	97.5	99.4	100.3	101.4	102.8	105.0	107.9	111.5	112.8	113.7	113.8	146.2
.250	98.5	99.4	100.3	101.7	103.4	105.4	108.3	111.5	111.8	112.5	112.6	145.8
.315	97.9	99.6	100.9	102.2	103.8	105.8	109.1	111.3	111.0	111.3	111.9	145.5
.400	99.1	100.2	101.1	102.9	104.6	106.8	110.0	111.5	111.1	112.3	112.6	146.1
.500	100.2	100.9	101.7	103.4	105.4	107.6	110.9	111.8	111.6	113.8	113.9	146.9
.630	101.0	101.3	102.2	104.2	106.0	108.4	111.6	112.3	112.9	115.8	115.2	148.1
.800	101.6	101.2	102.0	104.0	106.2	108.7	111.6	112.7	114.2	117.1	115.4	148.7
1.00	101.3	101.4	102.1	104.2	106.6	109.2	112.0	113.5	115.7	117.3	114.2	149.2
1.25	99.9	100.9	102.1	104.4	106.8	109.5	112.0	114.0	116.7	116.1	112.0	149.2
1.60	98.7	100.5	101.9	104.2	106.8	109.5	111.4	113.7	116.1	114.6	110.6	148.6
2.00	99.9	100.2	101.4	103.8	106.5	108.9	111.0	112.6	114.3	112.6	108.7	147.4
2.50	100.9	101.2	101.3	103.8	106.4	108.5	110.2	112.0	113.0	111.5	107.2	146.7
3.15	98.9	100.8	101.5	103.8	105.4	107.5	109.3	111.1	111.2	109.9	105.5	145.5
4.00	97.2	99.7	101.6	103.9	105.5	107.6	108.9	111.0	111.4	109.4	105.1	145.4
5.00	97.2	98.9	101.0	104.1	105.7	107.5	108.7	110.5	111.1	108.9	104.7	145.1
6.30	96.7	99.2	101.1	105.0	106.2	108.0	109.2	110.9	111.1	108.6	104.3	145.5
8.00	96.8	98.3	100.7	105.1	105.7	107.4	108.8	110.6	110.9	108.8	104.4	145.2
10.0	95.9	97.5	100.4	105.5	105.3	107.4	108.2	110.3	111.0	108.7	103.6	145.0

OAPHL = 161.0

OASPL 112.5 113.4 114.5 116.9 118.6 122.3 123.1 125.3 127.0 128.4 127.6
PHL 124.8 125.8 126.9 129.3 131.0 133.5 135.1 137.1 138.3 137.9 135.1

200. SIDELINE

PHL 116.0 117.7 119.2 121.8 123.4 125.4 126.3 127.1 126.5 123.7 117.2

370. SIDELINE

PHL 109.7 111.5 113.0 115.5 117.2 119.2 120.0 120.8 120.1 117.1 110.6

800. SIDELINE

PHL 100.9 102.7 104.2 106.7 108.5 110.5 111.2 111.7 111.1 107.9 101.5

2128. SIDELINE

PHL 86.9 88.9 90.5 92.9 94.8 97.0 97.5 98.0 97.1 94.3 88.4

20191F Q1471 VCE MODEL NOZ. PRI/FAN W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 6.0/1 RUN NUMBER 20191 CONDITION 01E

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	129.6	114.8	KG/S	58.8	52.1
PRES	30.33IN	1.03BAR	P.R.		1.60	2.41		1.60	2.41	THRUST,IDL	LB	5999.3	8272.8	N	26686	36799
REL H	17.0Z		TEMP	(R)	1468.0	1981.	(K)	815.6	1100.6	THRUST,MEA	LB		0.0	N		0.0
SOSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.025	Y/M3	0.492	0.399	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1490.6	2319.6	M/S	454.3	707.0	N (MDEL)	LB/S	3.6	3.2	KG/S	1.6	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 99.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

60

70

80

90

100

110

120

130

140

150

160

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

.050	94.5	94.0	95.2	96.8	97.8	116.9	101.8	105.5	110.4	115.6	119.2	
.063	97.8	97.7	98.4	99.0	100.3	111.7	105.2	109.5	114.8	119.1	119.5	
.080	100.3	99.8	100.4	102.1	102.7	106.1	106.0	110.8	117.9	121.5	122.3	
.100	100.4	100.1	100.6	102.0	102.8	104.8	107.6	112.1	118.0	121.7	121.2	
.125	100.0	100.8	101.4	102.9	103.9	105.5	108.1	112.8	117.9	121.9	121.2	
.160	102.5	103.0	103.6	105.0	105.8	108.1	110.3	113.7	118.2	122.8	122.4	
.200	100.8	102.4	103.5	104.8	105.7	107.5	110.5	113.3	116.5	119.9	119.5	
.250	101.1	102.0	103.0	104.5	105.7	107.9	110.6	113.2	115.4	118.6	118.0	
.315	99.9	101.9	103.2	104.6	106.0	108.0	111.1	113.0	114.8	116.6	116.6	
.400	101.5	102.3	103.7	105.6	106.7	109.0	112.0	113.2	114.8	116.7	116.1	
.500	101.8	102.8	103.9	105.7	107.0	109.5	112.6	113.7	115.3	116.9	115.2	
.630	102.4	103.1	104.3	106.2	107.6	110.2	113.1	113.9	115.6	117.0	114.7	
.800	103.6	103.3	104.3	106.1	108.1	110.6	113.1	113.7	116.0	116.4	112.8	
1.00	104.2	103.7	104.8	107.2	109.2	111.5	113.2	114.0	115.7	115.5	111.5	
1.25	103.7	104.3	105.6	107.8	110.1	112.7	113.7	114.0	115.2	114.0	109.6	
1.60	103.4	105.3	106.6	108.3	111.4	113.6	115.5	115.9	116.0	113.4	109.2	
2.00	103.3	104.1	104.9	107.2	110.0	111.9	115.1	115.5	114.3	111.6	107.6	
2.50	102.1	102.8	104.0	105.9	109.0	110.5	112.5	113.4	112.4	110.2	105.9	
3.15	100.6	102.0	103.4	105.8	108.6	109.9	111.8	111.6	110.5	108.5	103.3	
4.00	99.6	101.5	103.6	105.3	108.7	109.8	111.7	111.8	110.7	107.8	102.6	
5.00	99.4	101.1	103.6	104.6	108.8	110.0	111.3	111.7	110.5	107.1	101.3	
6.30	99.0	101.4	103.7	103.7	109.2	110.2	111.7	111.6	110.2	106.3	100.5	
8.00	99.3	100.5	103.0	101.8	108.7	109.3	111.3	111.4	110.2	106.8	100.3	
10.0	98.4	99.6	102.7	99.3	108.5	109.5	110.6	111.2	110.3	106.7	99.8	

OAPHL = 163.2

OASPL	115.1	115.9	117.3	118.8	121.5	124.4	125.5	126.7	128.8	131.1	130.6	
PNL	126.9	127.9	129.4	131.0	134.0	135.8	137.7	138.5	138.8	138.2	135.6	

200. SIDELINE

PNL	118.1	119.8	121.7	123.6	126.3	127.7	128.9	128.5	127.1	124.1	118.4	
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370. SIDELINE

PNL	111.8	113.6	115.5	117.4	120.1	121.5	122.7	122.3	120.8	117.8	112.2	
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800. SIDELINE

PNL	103.1	105.0	106.8	108.7	111.3	113.0	114.0	113.5	112.1	109.5	103.8	
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2128. SIDELINE

PNL	89.5	91.9	93.9	95.8	98.1	100.0	100.4	99.7	98.6	97.7	91.9	
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C32

20191F Q1471 VCE MODEL NOZ. PRI/FAN W/ EJECTOR W/ TABS

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 6.0/1 RUN NUMBER 20191 CONDITION 03E

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 87.0(F) 30.6(C) AREA SQFT 2.97 1.93 SQM 0.276 0.180 MASS FLOW LB/S 132.1 124.2 KG/S 59.9 56.3
 PRES 30.33IN 1.03BAR P.R. 1.60 2.41 1.60 2.41 THRUST,IDL LB 6155.5 8258.7 N 27381 36736
 REL H 16.0% TEMP (R) 1485.0 1694. (K) 825.0 941.1 THRUST,MEA LB 0.0 0.0 N 0.0 0.0
 SDSPD 1146FPS 349M/S RHO LB/FT3 0.030 0.029 KG/M3 0.486 0.470 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1500.2 2141.1 M/S 457.3 652.6 N (MODEL) LB/S 3.7 3.4 KG/S 1.7 1.6

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)
 BAND
 CENTER FREQ MICROPHONE ANGLES IN DEGREES POWER
 (KHZ) 60 70 80 90 100 110 120 130 140 150 160 1E-12W
 .050 93.7 93.4 94.5 96.2 97.4 116.4 101.1 105.1 110.1 115.1 118.9 148.2
 .063 97.0 97.2 98.4 98.7 100.1 111.4 104.8 108.9 114.4 118.8 119.1 148.8
 .080 99.8 99.5 100.4 101.9 102.2 105.7 105.7 110.4 117.4 121.2 121.9 150.8
 .100 100.0 99.7 100.3 101.7 102.3 104.3 107.1 111.8 117.9 121.6 121.0 151.0
 .125 99.7 100.4 101.1 102.7 103.7 105.4 107.8 112.4 117.9 121.8 121.1 151.2
 .160 102.5 103.0 103.4 104.3 105.7 108.1 109.9 113.5 118.6 123.0 122.3 152.4
 .200 100.6 102.0 103.2 104.4 105.3 107.1 109.9 112.9 116.6 119.8 119.3 150.2
 .250 100.8 101.5 102.4 103.9 105.2 107.2 110.0 112.7 115.4 118.5 117.8 149.2
 .315 99.7 101.6 102.8 104.0 105.4 107.5 110.4 112.7 114.6 116.3 116.1 148.3
 .400 100.8 101.7 103.1 105.0 106.0 108.3 111.2 112.8 114.3 116.1 115.4 148.4
 .500 101.4 102.1 103.4 105.0 106.3 108.6 111.5 113.0 114.5 116.0 114.5 148.4
 .630 101.7 102.4 103.5 105.4 106.8 109.1 112.0 112.9 114.5 116.1 114.0 148.7
 .800 102.9 102.6 103.5 105.3 107.2 109.4 111.8 112.5 114.6 115.4 112.3 148.4
 1.00 103.5 102.8 104.0 106.0 108.0 110.3 111.8 112.5 114.0 114.6 111.2 148.3
 1.25 102.7 103.0 104.4 106.4 108.6 111.1 112.6 112.2 113.6 113.3 109.2 148.2
 1.60 102.1 103.7 105.1 106.5 109.6 111.5 114.2 113.7 114.5 112.6 108.5 149.0
 2.00 102.1 103.7 103.8 105.4 108.7 110.3 113.5 113.9 113.6 110.9 107.0 148.3
 2.50 102.2 102.5 103.2 104.3 107.7 109.2 111.1 112.1 111.4 109.5 105.5 146.6
 3.15 100.7 101.8 103.1 104.1 107.0 108.3 110.3 110.0 109.5 107.9 103.1 145.4
 4.00 99.2 101.2 103.3 103.5 107.6 108.4 110.1 110.1 109.4 107.2 102.3 145.3
 5.00 98.7 100.3 102.3 102.4 107.5 108.3 109.6 109.9 109.2 106.0 100.8 145.0
 6.30 98.0 99.9 102.3 101.3 107.8 108.5 109.9 109.7 108.7 105.4 99.7 144.9
 8.00 98.0 99.2 101.9 99.3 107.0 107.7 109.4 109.4 108.6 105.8 99.6 144.4
 10.0 96.8 98.0 101.0 96.7 106.5 107.3 108.6 109.0 108.4 105.6 99.0 143.8
 OAPWL = 162.5

OASPL 114.5 115.2 116.5 117.6 120.3 123.3 124.3 125.6 128.3 130.8 130.3
 PNL 126.5 127.3 128.8 129.5 132.8 134.5 136.3 137.2 137.9 137.6 135.3

200. SIDELINE

PNL 117.7 119.2 121.1 122.1 125.1 126.4 127.5 127.2 126.3 123.6 118.0

370. SIDELINE

PNL 111.5 113.0 114.9 115.9 118.8 120.2 121.3 120.9 120.0 117.5 111.8

800. SIDELINE

PNL 102.7 104.3 106.1 107.3 110.1 111.6 112.7 112.1 111.1 109.2 103.5

2128. SIDELINE

PNL 88.8 90.9 92.9 94.5 96.8 98.6 99.3 98.4 98.1 97.5 91.6

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 6.0/1 RUN NUMBER 20191 CONDITION 04E

 PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN
 TEST DAY CONDITIONS
 TEMP 87.0(F) 30.6(C) AREA SQFT 2.97 1.93 SQM 0.276 0.180 MASS FLOW LB/S 129.2 144.7 KG/S 58.6 65.6
 PRES 30.33IN 1.03BAR P.R. 1.60 2.41 1.60 2.41 THRUST,IDL LB 5962.9 8310.5 N 26524 36967
 REL H 17.0% TEMP (R) 1446.0 1267. (K) 803.3 703.9 THRUST,MEA LB 0.0 0.0 N 0.0 0.0
 SDSPD 1146FPS 349M/S RHO LB/FT3 0.031 0.040 KG/M3 0.509 0.636 AREA (MOD) SQFT 0.08 0.05 SQM 0.008 0.005
 VEL FPS 1465.7 1849.1 M/S 452.8 563.6 W (MODEL) LB/S 3.6 4.0 KG/S 1.6 1.8

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS (SCALED ENGINE)
 BAND
 CENTER FREQ MICROPHONE ANGLES IN DEGREES POWER
 (KHZ) 60 70 80 90 100 110 120 130 140 150 160 1E-12W
 .050 92.1 91.8 93.5 95.1 95.9 114.7 99.5 103.5 108.4 113.5 117.3 146.6
 .063 95.9 96.2 97.6 97.9 99.2 110.7 103.5 107.5 113.0 117.6 118.1 147.7
 .080 98.6 98.4 99.5 100.7 101.0 104.4 104.4 109.2 116.1 120.1 120.8 149.6
 .100 98.7 98.5 99.1 100.5 101.0 103.1 105.7 110.8 116.5 120.4 120.1 149.8
 .125 98.7 99.0 99.8 101.3 102.3 104.1 106.4 111.2 116.8 120.7 119.9 150.1
 .160 101.9 102.0 102.6 103.4 104.5 107.2 108.8 112.6 117.9 122.1 121.5 151.6
 .200 99.3 100.7 101.8 103.1 103.7 105.8 108.4 111.7 115.6 118.6 118.2 149.0
 .250 99.3 100.1 101.1 102.6 103.6 105.7 108.3 111.3 114.2 117.1 116.4 147.8
 .315 98.2 99.9 101.2 102.2 103.4 105.6 108.5 111.1 113.3 114.4 114.3 146.6
 .400 99.1 99.9 101.5 103.1 104.0 106.3 109.1 111.3 112.8 113.8 113.1 146.5
 .500 99.8 100.3 101.8 103.1 104.1 106.3 109.1 111.2 112.4 113.5 112.4 146.3
 .630 100.1 100.9 101.9 103.2 104.6 106.6 109.3 110.9 111.7 113.2 112.1 146.2
 .800 101.1 103.8 101.6 103.2 104.7 106.8 108.9 110.1 111.3 112.9 110.8 145.8
 1.00 101.1 100.4 101.5 103.3 105.2 107.1 109.4 109.8 110.3 111.7 109.3 145.4
 1.25 99.8 100.0 101.6 103.1 105.0 107.4 109.9 109.4 109.4 110.3 107.4 145.0
 1.60 99.1 100.2 101.5 102.7 105.1 107.0 110.2 109.9 109.8 109.7 106.2 145.0
 2.00 100.5 100.4 100.9 101.9 104.4 105.9 108.9 109.7 109.9 108.2 104.6 144.3
 2.50 102.3 102.3 102.3 101.9 104.2 105.3 107.4 108.5 108.2 106.8 103.1 143.5
 3.15 100.0 101.1 102.8 102.5 103.7 104.3 106.3 106.0 105.3 104.9 100.6 142.2
 4.00 98.2 100.1 102.3 102.3 104.6 104.5 106.1 106.3 105.3 103.8 99.7 142.1
 5.00 97.8 99.1 101.6 101.1 105.0 104.9 105.9 106.0 105.0 102.9 98.1 141.8
 6.30 97.1 98.8 101.2 99.9 105.3 105.4 106.4 106.2 104.8 102.3 97.3 141.9
 8.00 96.9 97.7 100.6 97.8 104.6 104.8 106.0 105.8 104.6 102.7 97.8 141.4
 10.0 95.8 96.8 100.0 95.3 104.2 104.5 105.2 105.4 104.5 102.7 97.5 140.9
 OAPWL = 160.6

OASPL 113.1 113.6 114.9 115.6 117.7 120.9 121.5 123.4 126.4 129.4 129.1
 PNL 125.6 126.1 127.6 127.7 130.0 131.2 132.9 134.1 134.9 135.4 133.8

200. SIDELINE
 PNL 116.8 118.0 119.9 120.2 122.3 123.2 124.1 124.2 123.3 121.7 116.5

370. SIDELINE
 PNL 110.6 111.9 113.7 114.1 116.0 117.0 117.9 117.9 117.0 115.6 110.4

800. SIDELINE
 PNL 101.7 103.2 104.9 105.4 107.2 108.5 109.2 109.1 108.2 107.4 102.1

2120. SIDELINE
 PNL 87.7 89.4 91.1 91.9 93.7 95.4 96.2 96.0 96.2 95.9 90.4

ORIGINAL PAGE IS
 OF POOR QUALITY

STAND X206 RIG ID 70530 TEST DATE 10/17/78 SCALE RATIO 6.0/1 RUN NUMBER 20191 CONDITION 19E

PRIMARY FAN PRIMARY FAN PRIMARY FAN PRIMARY FAN

TEST DAY CONDITIONS

TEMP	85.0(F)	29.4(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	173.5	110.9	KG/S	78.7	50.3
PRES	30.33IN	1.03BAR	P.R.		2.07	2.12		2.07	2.12	THRUST,IDL	LB	10159.9	6732.3	N	45193	29947
REL H	20.0Z		TEMP	(R)	1557.0	1627.	(K)	865.0	903.9	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1144FPS	348M/S	RHO	LB/FT3	0.031	0.030	KG/M3	0.494	0.475	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1885.4	1955.1	M/S	574.7	595.9	W (MODEL)	LB/S	4.8	3.1	KG/S	2.2	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

	60	70	80	90	100	110	120	130	140	150	160	
.050	96.2	95.3	96.8	98.3	99.2	120.9	102.8	106.9	112.2	117.5	121.9	151.8
.063	101.3	101.3	102.3	103.0	103.7	112.1	108.2	112.7	118.3	122.0	122.3	151.9
.080	101.8	102.1	102.9	104.2	103.9	108.5	108.3	113.5	120.4	124.0	124.9	153.7
.100	102.1	101.9	102.4	103.5	104.1	106.6	109.1	115.2	121.6	125.1	124.2	154.4
.125	102.2	102.3	103.1	104.5	105.5	107.3	110.2	116.5	123.1	126.2	124.3	155.5
.160	103.4	103.7	104.5	105.9	107.3	109.9	112.5	118.6	125.3	126.8	124.3	156.8
.200	103.4	104.5	105.6	106.3	107.3	110.0	113.0	118.5	125.1	126.2	123.5	156.4
.250	102.7	103.6	104.9	105.9	107.3	109.8	113.3	118.0	124.8	125.9	122.5	156.1
.315	101.9	103.4	104.7	105.6	107.0	109.9	113.4	117.7	124.0	124.1	120.5	155.0
.400	102.7	103.2	104.6	106.3	107.6	110.5	114.2	117.8	123.1	123.0	118.2	154.2
.500	102.9	103.4	104.7	106.1	107.5	110.5	114.3	117.4	121.7	126.6	115.4	152.9
.630	103.2	103.5	104.6	106.3	107.8	110.5	114.2	116.7	120.2	118.2	113.6	151.8
.800	104.2	103.6	104.3	106.1	108.0	110.5	113.7	115.6	118.5	116.3	111.0	150.6
1.00	103.5	103.4	104.2	106.2	108.1	110.5	113.2	114.7	116.6	114.2	109.1	149.4
1.25	102.1	102.6	103.8	106.0	108.0	110.6	112.8	113.4	114.7	112.1	106.5	148.4
1.60	100.7	102.3	103.8	105.4	108.0	110.1	112.9	112.6	113.3	110.6	104.8	147.7
2.00	100.5	101.5	102.5	104.7	107.2	109.0	112.2	112.1	112.2	109.4	103.0	146.8
2.50	99.2	100.2	101.6	103.7	106.4	108.0	110.2	110.8	110.6	107.2	101.3	145.4
3.15	97.3	98.3	100.0	103.0	105.2	106.4	108.5	108.4	109.2	105.1	98.8	143.6
4.00	96.1	97.6	99.5	102.1	104.9	105.8	107.6	107.9	107.8	104.0	97.7	142.9
5.00	95.8	97.3	99.3	101.8	104.4	105.6	107.2	107.5	107.2	103.1	96.4	142.5
6.30	95.3	97.0	99.0	101.9	104.3	105.6	107.2	107.3	106.6	102.5	96.0	142.3
8.00	95.4	96.1	98.5	101.2	103.5	104.7	106.6	106.7	106.5	102.9	97.2	141.8
10.0	94.2	95.2	97.8	100.5	103.1	104.3	105.6	106.2	106.7	103.6	98.2	141.3

OAPWL = 166.0

OASPL 115.1 115.6 116.7 118.4 120.1 124.9 125.3 128.5 133.9 135.1 133.2
 PNL 125.2 126.0 127.4 129.5 131.6 133.9 135.9 137.6 140.5 140.1 136.5

200. SIDELINE

PNL 116.4 118.1 119.9 122.1 124.0 125.9 127.2 127.7 129.2 126.5 119.4

370. SIDELINE

PNL 110.3 112.0 113.8 115.9 117.9 119.8 121.1 121.5 123.2 120.6 113.4

800. SIDELINE

PNL 101.7 103.5 105.4 107.5 109.4 111.4 112.6 113.1 115.3 112.7 105.4

2128. SIDELINE

PNL 89.0 90.8 92.7 94.7 96.5 98.8 99.9 101.4 104.1 101.6 94.1

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 6.0/1 RUN NUMBER 20189 CONDITION 91ET

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	88.0(F)	31.1(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	126.7	114.1	KG/S	57.5	51.8
PRES	29.75IN	1.01BAR	P.R.		1.59	2.41		1.59	2.41	THRUST,IDL	LB	5868.9	8247.4	N	26106	36636
REL H	36.0Z		TEMP	(R)	1474.0	1990.	(K)	818.9	1105.6	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1147FPS	349M/S	RHO	LB/FT3	0.031	0.025	KG/M3	0.489	0.393	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1491.3	2327.1	M/S	454.5	709.3	W (MODEL)	LB/S	3.5	3.2	KG/S	1.6	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160
.050	94.4	93.8	95.1	96.5	98.6	112.6	100.9	105.0	109.1	114.3	119.3
.063	97.5	97.1	97.6	98.3	101.3	107.4	104.4	108.3	113.8	117.9	120.0
.080	102.7	100.6	100.7	103.7	106.5	107.7	105.5	110.5	118.1	122.2	123.3
.100	100.1	99.7	100.2	101.7	104.3	104.5	106.7	111.4	116.9	120.6	121.9
.125	99.9	100.3	101.0	102.4	105.5	104.8	107.2	111.6	116.7	120.9	121.0
.160	102.6	103.2	103.3	103.5	107.7	107.6	109.2	112.4	117.0	121.9	123.0
.200	100.3	102.0	102.6	103.8	107.2	106.7	109.2	112.1	115.1	118.4	119.9
.250	100.8	101.6	102.0	103.6	107.1	107.0	109.2	112.0	114.3	117.0	118.2
.315	99.9	101.6	102.4	103.6	107.1	107.3	109.8	111.8	113.4	115.1	116.8
.400	100.8	101.5	102.9	104.7	108.0	108.0	110.3	111.8	113.0	115.2	116.4
.500	101.6	102.2	103.2	104.8	108.3	108.4	111.3	112.1	113.3	115.4	115.9
.630	102.0	102.7	103.5	105.2	108.9	109.3	111.5	112.1	113.9	115.8	115.5
.800	103.7	103.1	103.7	105.8	109.5	110.2	111.5	112.5	114.7	116.0	115.0
1.00	107.4	104.5	105.3	109.4	112.5	113.8	112.0	113.9	117.1	119.1	117.8
1.25	104.6	105.0	106.5	108.6	112.7	113.1	113.7	113.8	115.1	114.8	113.2
1.60	105.0	106.4	108.7	110.7	114.6	114.9	116.8	116.8	117.3	115.6	113.5
2.00	102.9	103.6	104.1	106.3	110.3	110.9	113.1	113.5	113.1	112.5	110.6
2.50	101.4	102.1	103.0	105.1	109.3	109.3	111.0	111.4	111.9	111.1	108.7
3.15	99.4	100.7	102.0	104.6	107.8	108.8	110.4	110.3	110.0	109.3	105.8
4.00	97.1	99.0	100.9	103.3	106.5	107.5	108.8	109.3	109.3	107.9	104.5
5.00	95.4	96.9	99.1	101.9	105.9	106.5	107.9	108.0	108.2	106.5	102.4
6.30	93.6	95.7	97.9	100.9	104.8	105.6	107.4	107.5	107.4	105.5	100.7
8.00	92.4	93.8	96.2	99.3	103.2	104.1	106.2	106.8	106.8	105.2	100.2
10.0	90.0	91.8	94.5	97.8	101.8	103.4	105.4	106.2	106.5	104.8	98.9

OAPWL = 162.6

OASPL	115.2	115.4	116.5	116.6	122.3	123.2	124.2	125.5	128.0	130.6	131.4
PWL	126.0	126.7	128.3	130.5	134.2	134.8	136.3	137.0	138.2	138.4	137.2

200. SIDELINE

PWL	117.2	118.8	120.8	123.1	126.7	126.9	127.6	127.2	126.7	124.5	119.6
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370. SIDELINE

PWL	111.1	112.8	114.9	117.1	120.7	120.9	121.5	121.0	120.5	118.1	113.4
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800. SIDELINE

PWL	102.6	104.6	106.6	108.9	112.5	112.6	113.1	112.5	111.7	109.2	104.9
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2128. SIDELINE

PWL	89.9	91.9	94.1	96.3	99.8	99.8	100.0	99.2	98.3	97.1	92.9
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20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 6.0/1 RUN NUMBER 20189 CONDITION 03ET

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	126.4	123.5	KG/S	57.3	56.0
PRES	29.75IN	1.01BAR	P.R.		1.60	2.41		1.60	2.41	THRUST,IDL	LB	5855.8	8226.7	N	26048	36594
REL H	37.0Z		TEMP	(R)	1469.0	1697.	(K)	816.1	942.8	THRUST,MEA	LB	0.0	0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.029	KG/M3	0.491	0.469	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1492.2	2145.3	M/S	454.8	653.9	W (MODEL)	LB/S	3.5	3.4	KG/S	1.6	1.6

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES											POWER 1E-12W
	60	70	80	90	100	110	120	130	140	150	160	
.050	93.8	93.1	94.7	96.1	98.3	112.7	100.5	104.6	108.9	113.8	118.7	146.3
.063	98.7	97.5	97.9	98.7	102.6	107.6	104.1	108.5	114.0	118.2	120.0	148.3
.080	107.0	103.4	103.0	105.5	110.8	110.8	106.6	113.1	120.7	125.2	124.9	154.4
.100	99.8	99.4	99.8	101.4	104.0	104.4	106.5	111.3	117.0	120.5	121.5	150.4
.125	99.3	99.9	100.4	102.0	105.1	104.7	106.9	111.2	116.6	120.6	120.5	150.2
.160	103.8	104.0	103.7	103.8	108.4	108.2	109.2	112.3	117.4	122.8	123.4	152.3
.200	99.9	101.5	102.2	103.4	106.8	106.5	108.9	111.8	115.3	118.2	119.2	149.1
.250	100.4	101.1	101.5	103.0	106.6	106.6	108.6	111.7	114.3	116.7	117.6	148.2
.315	99.3	101.0	101.9	103.0	106.8	106.7	109.1	111.5	113.2	114.6	115.8	147.2
.400	100.4	101.0	102.4	104.0	107.4	107.4	109.6	111.4	112.7	114.2	115.3	147.2
.500	101.2	101.6	102.7	104.4	107.8	107.9	110.3	111.5	112.7	114.4	114.7	147.4
.630	101.7	102.3	103.1	104.7	108.4	108.7	110.6	111.5	112.8	114.3	114.4	147.6
.800	104.4	103.2	103.8	105.9	110.3	110.7	111.7	114.5	115.9	116.7		149.0
1.00	108.7	104.8	106.1	112.0	115.2	115.5	112.0	112.5	118.2	120.1	122.3	152.9
1.25	103.3	104.0	104.8	107.0	110.9	111.2	112.3	111.8	112.9	113.3	113.1	148.5
1.60	103.3	104.7	105.7	107.3	111.4	111.8	114.2	113.7	114.0	113.2	111.9	149.4
2.00	103.1	103.2	103.3	105.3	109.0	109.5	111.9	112.1	111.8	111.7	111.6	147.4
2.50	101.7	102.3	102.7	104.3	108.1	108.3	109.8	109.9	110.4	110.1	109.0	145.9
3.15	99.3	100.4	101.5	103.8	106.1	106.9	108.5	108.2	108.3	108.4	106.7	144.3
4.00	95.8	98.5	100.4	102.6	105.1	105.0	107.2	107.4	107.8	107.2	105.6	143.2
5.00	94.9	96.3	98.4	100.9	104.4	104.9	106.0	106.0	106.4	105.7	103.5	141.9
6.30	93.0	94.9	97.2	99.9	103.4	104.0	105.3	105.1	105.5	104.7	102.1	141.0
8.00	91.6	92.7	95.3	98.3	101.8	102.2	104.1	104.5	104.6	104.3	101.5	139.8
10.0	89.0	90.8	93.5	96.6	100.1	101.5	103.0	103.7	104.2	104.0	100.2	138.9

OAPWL = 162.5

OASPL	115.7	115.2	115.9	118.4	122.0	122.8	123.0	124.5	128.0	131.1	131.8
PNL	126.0	126.4	127.3	129.4	132.9	133.4	134.6	135.3	136.7	137.7	138.3

200. SIDELINE

PNL	117.2	118.5	119.7	122.0	125.3	125.4	125.9	125.4	125.1	123.9	120.8
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370. SIDELINE

PNL	111.1	112.4	113.7	115.9	119.3	119.3	119.9	119.2	118.9	117.7	114.3
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800. SIDELINE

PNL	102.6	103.9	105.3	107.5	111.0	111.0	111.4	110.7	110.3	109.0	105.3
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2128. SIDELINE

PNL	90.1	91.2	92.7	95.3	98.6	98.5	98.5	97.6	97.6	97.3	93.0
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C-37

20189F Q1259 VCE PRI/FAN NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 6.0/1 RUN NUMBER 20189 CONDITION 04 ET

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	87.0(F)	30.6(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	125.6	142.2	KG/S	57.0	64.5
PRES	29.75IN	1.01BAR	P.R.		1.60	2.40		1.60	2.40	THRUST,IDL	LB	5829.0	8124.5	N	25929	36139
REL H	37.0%		TEMP	(R)	1468.0	1262.	(K)	815.6	701.1	THRUST,MEA	LB		0.0	N		0.0
SDSPD	1146FPS	349M/S	RHO	LB/FT3	0.031	0.040	KG/M3	0.492	0.638	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1493.9	1839.7	M/S	455.3	567.7	W (MODEL)	LB/S	3.5	3.9	KG/S	1.6	1.8

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

(KHZ)

MICROPHONE ANGLES IN DEGREES

POWER

1E-12W

	60	70	80	90	100	110	120	130	140	150	160	
.050	93.9	93.8	95.1	96.5	98.4	114.0	100.6	104.6	108.8	113.6	118.5	146.6
.063	105.0	104.2	109.7	108.0	107.5	109.3	107.0	113.8	121.3	126.0	126.2	155.2
.080	111.5	110.4	116.4	114.5	113.6	112.9	111.4	119.6	127.5	132.4	132.3	161.4
.100	99.6	99.3	100.0	101.4	103.9	104.3	106.3	111.3	116.9	120.5	121.5	150.3
.125	100.3	101.1	101.2	102.7	105.7	105.1	107.2	112.1	117.6	121.6	122.3	151.3
.160	104.3	105.6	104.9	106.3	108.9	108.3	110.6	114.7	120.4	124.7	126.9	154.6
.200	99.6	101.5	102.2	104.0	106.9	106.1	108.5	111.9	116.4	119.3	120.4	149.9
.250	100.2	100.7	101.4	102.7	106.5	106.2	108.2	111.5	115.5	117.8	118.3	148.8
.315	99.1	100.6	101.3	102.2	106.1	105.9	108.3	111.2	113.9	115.3	116.4	147.3
.400	99.4	100.1	101.2	102.9	106.3	106.2	108.4	110.8	113.1	114.2	114.8	146.7
.500	100.3	100.6	101.7	102.9	106.6	106.2	108.7	110.7	112.1	113.4	113.9	146.3
.630	100.4	101.0	101.7	103.1	106.8	106.7	108.5	110.1	111.3	112.9	113.6	146.1
.800	101.7	101.1	101.5	103.3	107.0	107.1	108.2	109.3	110.7	112.6	112.8	145.8
1.00	102.6	101.4	102.0	103.9	107.9	107.9	109.2	109.0	109.9	112.0	112.1	145.8
1.25	101.6	101.6	102.3	103.8	108.0	108.2	110.0	109.3	109.0	110.8	110.4	145.7
1.60	100.5	101.7	101.9	103.4	107.3	107.3	110.1	109.6	109.5	109.9	109.1	145.4
2.00	102.3	102.2	101.6	102.1	105.7	105.6	107.7	108.4	108.5	107.9	107.0	143.9
2.50	101.6	102.4	102.3	102.3	104.9	104.8	106.3	106.4	106.9	106.4	105.2	142.9
3.15	98.9	100.4	101.3	102.6	103.7	103.3	104.7	104.1	104.0	103.9	102.3	141.2
4.00	96.4	98.3	99.7	101.1	102.9	102.4	103.3	103.6	102.7	102.2	100.8	139.9
5.00	94.5	96.3	97.8	99.5	102.4	101.7	102.1	101.8	101.2	100.4	98.6	138.6
6.30	92.4	94.5	96.4	98.3	101.1	101.0	101.3	100.8	99.8	99.0	97.1	137.5
8.00	90.7	92.1	94.3	96.4	99.4	99.0	99.9	99.6	98.9	98.7	96.7	136.0
10.0	88.1	89.9	92.6	94.6	97.6	97.9	98.4	98.7	98.4	98.9	95.9	134.7

OAPWL = 164.6

OASPL 115.9 115.8 119.1 118.6 120.4 121.1 121.4 124.9 130.5 134.8 135.2
 PNL 125.4 126.2 126.9 128.1 130.5 130.5 131.7 132.9 135.0 137.7 137.7

200. SIDELINE

PNL 116.7 118.2 119.4 120.7 122.9 122.5 123.0 123.0 123.7 124.2 120.7

370. SIDELINE

PNL 110.6 112.1 113.4 114.6 116.9 116.5 117.0 116.9 117.9 118.3 114.7

800. SIDELINE

PNL 102.1 103.7 105.0 106.0 108.5 108.1 108.7 108.5 110.0 110.5 106.7

2128. SIDELINE

PNL 88.8 90.4 93.3 95.6 96.0 95.6 96.0 96.6 99.1 99.7 95.7

20189F Q1259 VCE PRI/FAH NOZ W/ EJECTOR B/M POS.

15.2049

STAND X206 RIG ID 70530 TEST DATE 10/06/78 SCALE RATIO 6.0/1 RUN NUMBER 20189 CONDITION 19 ET

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

PRIMARY FAN

TEST DAY CONDITIONS

TEMP	89.0(F)	31.7(C)	AREA	SQFT	2.97	1.93	SQM	0.276	0.180	MASS FLOW	LB/S	168.5	107.6	KG/S	76.4	48.8
PRES	29.75IN	1.01BAR	P.R.		2.07	2.10		2.07	2.10	THRUST,IDL	LB	9942.3	6524.4	N	44225	29022
REL H	36.0Z		TEMP	(R)	1583.0	1639.	(K)	879.4	910.5	THRUST,MEA	LB	0.0		N		0.0
SDSPD	1148FPS	349M/S	RHO	LB/FT ³	0.030	0.029	KG/M ³	0.486	0.470	AREA (MOD)	SQFT	0.08	0.05	SQM	0.008	0.005
			VEL	FPS	1900.2	1951.7	M/S	579.2	594.9	W (MODEL)	LB/S	4.7	3.0	KG/S	2.1	1.4

FAA DAY

1/3 OCTAVE BAND ENGINE JET NOISE DATA 90.0FT RADIUS

(SCALED ENGINE)

BAND

CENTER FREQ

MICROPHONE ANGLES IN DEGREES

(KHZ)	60	70	80	90	100	110	120	130	140	150	160	POWER 1E-12W
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1050	96.9	96.1	97.4	99.3	101.0	114.9	103.4	108.0	113.0	116.8	121.8	149.2
1063	116.7	116.8	118.9	119.6	120.9	124.3	122.5	128.9	134.8	135.4	133.5	166.3
1080	113.5	113.4	115.7	116.3	117.7	121.1	119.0	125.4	131.4	132.4	130.7	163.1
1100	102.2	101.7	102.1	103.5	106.4	106.8	108.8	114.7	120.9	124.2	124.9	153.9
1125	113.1	109.2	110.4	117.4	120.9	117.3	114.2	120.3	136.5	135.8	135.1	166.6
1160	111.5	108.4	109.3	115.6	119.2	115.9	114.0	119.9	134.9	134.1	133.5	165.0
1200	109.4	105.4	106.8	106.0	113.4	111.5	112.8	118.4	127.3	127.8	127.5	158.4
1250	105.4	105.2	104.7	106.3	111.1	109.6	112.6	117.8	125.4	126.2	123.2	156.5
1315	107.5	107.4	105.4	107.7	111.3	109.5	112.7	117.6	124.7	124.9	122.4	155.7
1400	108.2	107.8	107.2	107.6	110.8	110.8	112.7	117.3	124.2	124.7	121.7	155.4
1500	107.0	107.4	107.3	107.6	110.5	110.2	112.8	117.0	122.2	121.8	118.8	153.6
1630	105.8	105.8	106.6	107.7	110.6	110.4	112.7	116.2	121.6	120.6	117.1	152.9
1800	105.2	104.6	105.1	106.7	110.5	110.5	112.3	114.9	119.8	118.4	114.7	151.4
1900	103.8	103.5	104.1	106.0	110.3	110.7	112.4	114.3	118.3	116.6	112.7	150.3
1925	102.0	102.8	103.7	105.6	110.2	110.9	112.3	113.2	116.6	115.0	110.4	149.3
1960	101.1	102.4	103.5	105.3	105.5	110.2	111.9	112.0	115.1	113.5	108.6	148.3
2000	100.5	101.2	101.9	103.9	108.2	108.8	110.7	111.0	113.6	111.3	106.5	146.8
2050	99.1	100.0	100.8	102.9	107.1	107.3	108.8	109.6	112.3	110.1	105.0	145.5
3.15	97.2	98.0	99.0	101.9	104.9	105.5	106.7	107.2	110.0	108.0	103.0	143.4
4.00	95.5	96.7	97.8	100.3	103.6	104.3	105.3	106.3	109.5	106.9	102.3	142.4
5.00	93.9	95.0	96.3	98.8	102.8	103.2	103.9	104.8	108.4	105.7	100.8	141.1
6.30	92.0	93.6	95.1	97.6	101.4	102.0	103.1	103.9	107.8	105.2	100.8	140.3
8.00	90.7	91.5	93.1	95.7	99.6	100.0	101.5	102.9	107.6	105.2	103.1	139.4
10.0	89.8	90.1	91.6	93.8	97.8	99.2	100.1	102.3	108.4	105.5	105.2	139.3

ORIGINAL PAGE IS
OF POOR QUALITY

OAPHL = 172.4

OASPL	121.8	121.0	122.5	124.5	127.3	128.2	127.2	132.6	141.5	141.4	140.3
FHL	126.9	127.0	127.8	129.9	133.7	134.0	135.0	137.4	145.0	144.3	142.4

200. SIDELINE

FHL	118.2	119.1	120.3	122.6	126.2	126.0	126.3	127.5	133.8	130.8	125.4
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370. SIDELINE

FHL	112.4	113.1	114.4	116.6	120.3	120.0	120.3	121.6	128.0	124.9	119.5
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800. SIDELINE

FHL	104.6	105.2	106.4	109.0	112.4	111.9	112.0	113.7	120.3	117.2	111.6
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2128. SIDELINE

FHL	93.6	94.1	95.6	98.2	101.6	100.8	99.8	102.8	109.8	106.6	100.9
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6.2

ACOUSTIC
GRAPHICAL DATA

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 1

TAM (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1435.0	PRIMARY AREA (SQ. FT.)	=	2.930
TID (DEG. R.)	=	1968.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	137.6	PLUG RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1472.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	2306.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	82.9	92.4	92.5	92.6	92.8	92.9	92.5	96.1	97.0	95.4	95.0	95.6	98.2	98.6	99.4	107.4	111.7	115.6	118.3
.063	83.8	93.6	93.7	93.8	93.9	94.0	93.8	97.2	98.1	96.9	96.7	97.3	99.7	100.2	101.3	109.3	113.4	117.0	119.6
.080	84.8	94.7	94.8	94.9	95.1	95.2	95.1	98.2	99.2	98.3	98.3	99.0	101.1	101.9	103.2	110.9	114.9	118.3	120.5
.100	85.7	95.9	95.9	96.0	96.2	96.3	96.3	99.2	100.2	99.6	99.7	100.5	102.4	103.4	104.8	112.2	116.0	119.2	120.9
.125	86.6	97.0	97.1	97.2	97.3	97.5	97.5	100.1	101.2	100.7	101.0	101.8	103.6	104.7	106.3	113.3	116.7	119.5	120.8
.160	87.7	98.1	98.2	98.3	98.4	98.6	98.7	101.1	102.2	101.9	102.2	103.1	104.9	106.1	107.7	114.1	117.0	119.4	120.4
.200	88.6	99.0	99.1	99.2	99.4	99.5	99.8	101.9	103.0	102.8	103.2	104.1	105.9	107.2	108.9	114.5	116.9	118.9	120.1
.250	89.5	99.7	99.8	99.9	100.0	100.3	100.9	102.6	103.7	103.6	104.0	105.0	106.7	108.1	109.8	114.4	116.5	118.2	120.0
.315	90.5	100.2	100.3	100.4	100.5	100.8	101.7	103.2	104.3	104.2	104.6	105.7	107.4	108.9	110.5	114.1	116.0	117.6	120.1
.400	91.5	100.6	100.7	100.8	100.9	101.2	102.0	103.7	104.8	104.7	105.0	105.1	107.8	109.3	110.9	113.8	115.6	117.1	120.4
.500	92.4	100.5	100.5	100.6	100.8	101.0	101.6	103.6	104.8	104.7	104.8	105.1	108.0	109.5	111.1	113.5	115.3	116.8	120.6
.630	93.2	100.2	100.3	100.4	100.5	100.7	101.2	103.5	104.8	104.6	104.8	105.3	108.2	109.7	111.2	113.4	115.2	116.8	120.4
.800	94.3	100.0	100.0	100.1	100.2	100.4	100.7	103.3	104.8	104.7	104.8	105.4	108.4	109.9	111.4	113.6	115.4	117.1	119.8
1.00	95.8	100.0	100.0	100.0	100.0	100.1	100.4	103.2	104.9	104.9	105.2	106.8	108.7	110.2	111.7	114.0	115.8	117.6	119.1
1.25	97.7	100.4	100.3	100.2	100.1	100.1	100.2	103.3	105.0	105.3	105.8	107.3	109.0	110.5	112.1	114.5	116.3	118.0	118.1
1.60	99.2	101.0	100.9	100.8	100.5	100.2	100.1	103.2	104.9	105.6	106.4	107.8	109.1	110.8	112.5	114.9	116.4	117.8	117.1
2.00	98.9	100.6	100.8	100.9	100.8	100.8	100.2	103.1	104.7	105.4	105.3	107.7	109.1	110.8	112.5	114.5	115.9	117.2	116.1
2.50	97.6	99.4	99.6	99.8	100.1	100.6	100.2	102.9	104.3	105.0	105.9	107.4	108.8	110.4	112.1	113.8	115.1	116.0	115.0
3.15	96.8	98.5	98.6	98.7	98.9	99.4	99.5	102.4	103.7	104.5	105.5	106.9	108.3	109.9	111.4	112.9	113.7	114.5	113.9
4.00	95.3	97.8	97.9	97.9	98.0	98.1	98.4	101.5	103.0	103.9	105.0	106.4	107.7	109.0	110.4	111.9	112.8	113.8	112.7
5.00	95.8	97.3	97.4	97.5	97.5	97.7	97.6	100.6	101.5	102.9	104.5	105.8	107.1	108.3	109.5	110.9	112.0	112.9	111.6
6.30	94.9	96.4	96.5	96.6	96.8	97.1	96.9	99.7	99.9	101.8	103.8	105.1	106.3	107.4	108.5	109.9	110.8	111.7	110.4
8.00	93.6	95.1	95.2	95.3	95.5	95.8	95.9	98.7	98.6	100.6	102.9	104.2	105.4	106.4	107.3	108.6	109.5	110.3	109.0
10.0	92.2	93.7	93.8	93.9	94.1	94.4	94.7	97.5	97.2	99.4	101.9	103.1	104.2	105.1	106.0	107.3	108.0	108.7	107.5
OVERALL	108.1	112.4	112.5	112.6	112.7	112.8	113.1	115.6	116.8	117.1	117.8	119.1	120.7	122.1	123.6	126.7	128.8	130.8	132.3
PNDS	121.0	124.3	124.4	124.5	124.6	124.9	125.0	127.7	128.9	129.5	130.4	131.8	133.3	134.7	136.2	138.5	140.0	141.3	141.5
PNLT	121.0	124.3	124.4	124.5	124.6	124.9	125.0	127.7	128.9	129.5	130.4	131.8	133.3	134.7	136.2	138.5	140.0	141.3	141.5

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 2

TAN (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1442.0	PRIMARY AREA (SQ. FT.)	=	2.980
TYD (DEG. R.)	=	1795.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	137.2	PLUS RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1475.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	2198.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	81.7	92.1	92.2	92.3	92.5	92.6	92.3	95.6	96.6	95.2	94.9	95.3	97.7	98.0	98.9	107.2	111.5	115.4	117.9
.063	82.6	93.3	93.4	93.5	93.6	93.8	93.6	96.7	97.7	96.7	96.5	97.1	99.2	99.7	100.8	109.1	113.2	116.8	119.2
.080	83.6	94.5	94.5	94.6	94.8	94.9	94.9	97.8	98.9	98.1	98.1	98.7	100.6	101.4	102.7	110.8	114.7	118.1	120.1
.100	84.5	95.6	95.7	95.8	95.9	96.1	96.1	98.8	99.9	99.3	99.5	100.2	102.0	102.9	104.4	112.0	115.7	118.9	120.4
.125	85.5	96.7	96.8	96.9	97.1	97.2	97.3	99.7	100.8	100.5	100.8	101.6	103.2	104.3	105.9	113.1	116.4	119.2	120.2
.160	86.5	97.9	97.9	98.0	98.2	98.4	98.6	100.7	101.8	101.6	102.1	102.9	104.5	105.7	107.3	113.9	116.7	119.0	119.7
.200	87.5	98.7	98.8	98.9	99.1	99.3	99.7	101.5	102.7	102.5	103.0	103.9	105.5	106.8	108.5	114.2	116.5	118.5	119.3
.250	88.4	99.4	99.5	99.6	99.7	100.0	100.7	102.2	103.3	103.3	103.8	104.7	106.3	107.7	109.4	114.1	116.1	117.7	119.1
.315	89.5	99.9	100.0	100.1	100.2	100.5	101.5	102.8	104.0	103.9	104.3	105.3	106.9	108.4	110.1	113.7	115.5	117.0	119.0
.400	90.5	100.2	100.3	100.4	100.5	100.8	101.7	103.3	104.4	104.3	104.6	105.7	107.3	108.8	110.4	113.3	115.0	116.5	119.2
.500	91.4	100.1	100.2	100.3	100.4	100.6	101.3	103.1	104.4	104.2	104.5	105.7	107.5	108.9	110.5	112.9	114.6	116.0	119.6
.630	92.2	99.8	99.9	100.0	100.1	100.3	100.8	102.9	104.3	104.1	104.3	105.7	107.6	109.0	110.5	112.7	114.4	115.9	119.8
.800	93.4	99.5	99.5	99.6	99.7	99.9	100.3	102.6	104.3	104.1	104.3	105.8	107.7	109.2	110.6	112.7	114.4	116.0	119.5
1.00	95.2	99.6	99.5	99.5	99.5	99.6	100.0	102.5	104.3	104.2	104.4	106.0	107.9	109.3	110.8	113.0	114.7	116.3	119.0
1.25	97.5	100.1	99.9	99.8	99.6	99.6	99.7	102.4	104.4	104.5	104.9	106.5	108.2	109.6	111.1	113.4	115.1	116.8	118.1
1.60	99.1	100.3	100.7	100.7	100.3	99.9	99.7	102.4	104.3	104.8	105.5	106.9	108.3	109.9	111.4	113.8	115.4	116.9	117.1
2.00	98.6	100.3	100.5	100.8	100.7	100.6	99.9	102.3	104.1	104.7	105.4	106.9	108.3	109.9	111.5	113.6	115.0	116.4	116.1
2.50	97.2	99.1	99.2	99.5	99.9	100.4	99.9	102.2	103.7	104.3	105.1	106.5	108.0	109.6	111.1	112.9	114.2	115.5	115.1
3.15	96.4	98.2	98.2	98.3	98.6	99.1	99.1	101.7	103.3	103.8	104.6	106.1	107.6	109.0	110.5	112.1	113.0	113.6	113.9
4.00	95.9	97.5	97.6	97.6	97.7	97.8	98.0	100.7	102.6	103.3	104.2	105.6	107.0	108.2	109.5	111.1	111.9	112.9	112.7
5.00	95.4	96.9	97.0	97.2	97.2	97.4	97.2	99.8	101.1	102.3	103.8	105.1	106.4	107.5	108.6	110.1	111.2	112.2	111.7
6.30	94.5	96.0	96.1	96.2	96.4	96.8	96.6	99.0	99.5	101.1	103.0	104.4	105.6	106.6	107.6	109.1	110.0	110.9	110.4
8.00	93.1	94.7	94.8	94.9	95.1	95.5	95.6	98.0	98.2	99.9	102.0	103.4	104.7	105.6	106.5	107.8	108.7	109.5	109.1
10.0	91.7	93.3	93.4	93.5	93.7	94.1	94.3	96.7	96.8	98.7	101.0	102.4	103.5	104.4	105.2	106.5	107.3	108.3	107.6
OVERALL	107.6	112.1	112.2	112.3	112.3	112.5	112.8	115.0	116.4	116.5	117.2	118.4	120.0	121.4	122.9	125.1	128.2	130.1	131.8
PNGB	120.5	124.0	124.0	124.2	124.3	124.6	124.6	127.0	128.4	128.9	129.7	131.1	132.6	133.9	135.3	137.7	139.2	140.7	141.3
PNLT	120.5	124.0	124.0	124.2	124.3	124.6	124.6	127.0	128.4	128.9	129.7	131.1	132.6	133.9	135.3	137.7	139.2	140.7	141.3

D-2
ORIGINAL PAGE IS
OF POOR QUALITY

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 3

TAN (DEG. R.) = 537.0
TOTAL TEMP (DEG. R.) = 1446.0
TTO (DEG. R.) = 1659.0
MASSFLOW (LB/SEC) = 138.4
PRIMARY VELOCITY (FT./SEC) = 1489.0
DUCT VELOCITY (FT./SEC) = 2110.0

PRIMARY DIAMETER (FT.) = 1.948
PRIMARY AREA (SQ. FT.) = 2.980
DUCT AREA (SQ. FT.) = 1.930
PLUG RADIUS (FT.) = 0.0
DUCT ID RADIUS (FT.) = 0.974
PRIMARY RADIUS RATIO = 0.0
DUCT RADIUS RATIO = 0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	80.6	92.0	92.1	92.2	92.4	92.5	92.2	95.3	96.4	95.2	94.8	95.3	97.3	97.6	98.5	107.2	111.5	115.3	117.7
.063	81.6	93.2	93.3	93.4	93.5	93.7	93.5	96.4	97.5	96.6	96.5	97.0	98.9	99.4	100.5	109.1	113.1	116.7	119.0
.080	82.6	94.3	94.4	94.5	94.7	94.8	94.9	97.5	98.6	98.0	98.1	98.7	100.4	101.1	102.5	110.7	114.6	118.0	119.9
.100	83.6	95.5	95.6	95.7	95.8	96.0	96.1	98.5	99.7	99.2	99.5	100.1	101.7	102.7	104.2	112.0	115.6	118.8	120.1
.125	84.5	96.6	96.7	96.8	96.9	97.1	97.2	99.4	100.6	100.4	100.7	101.5	103.0	104.1	105.7	113.0	116.3	119.0	119.9
.160	85.6	97.7	97.8	97.9	98.1	98.3	98.5	100.4	101.6	101.5	102.0	102.7	104.2	105.4	107.1	113.8	116.5	118.8	119.3
.200	86.6	98.6	98.7	98.8	99.0	99.2	99.6	101.2	102.5	102.4	103.0	103.8	105.2	106.5	108.3	114.1	116.4	118.2	118.8
.250	87.6	99.2	99.3	99.4	99.6	99.8	100.6	102.0	103.1	103.1	103.7	104.6	106.0	107.5	109.2	113.9	115.9	117.5	118.5
.315	88.7	99.7	99.8	99.9	100.1	100.4	101.4	102.6	103.7	103.7	104.2	105.2	106.7	108.1	109.8	113.5	115.3	116.7	118.3
.400	89.8	100.1	100.1	100.2	100.4	100.6	101.6	103.0	104.2	104.1	104.5	105.4	107.0	108.5	110.1	113.0	114.7	116.1	118.4
.500	90.6	99.9	100.0	100.1	100.2	100.4	101.2	102.8	104.1	104.0	104.3	105.4	107.1	108.6	110.1	112.5	114.2	115.6	118.7
.630	91.4	99.6	99.6	99.7	99.9	100.1	100.6	102.5	104.0	103.8	104.1	105.4	107.2	108.6	110.1	112.2	113.8	115.3	119.1
.800	92.8	99.5	99.3	99.3	99.5	99.7	100.2	102.1	103.9	103.7	103.9	105.4	107.2	108.6	110.1	112.1	113.7	115.2	119.0
1.00	94.9	99.4	99.3	99.3	99.3	99.3	99.7	101.9	103.8	103.7	103.9	105.5	107.4	108.8	110.1	112.2	113.9	115.4	118.6
1.25	97.4	100.0	99.8	99.6	99.4	99.3	99.5	101.8	103.9	103.9	104.2	105.8	107.6	109.0	110.4	112.6	114.2	115.8	117.9
1.60	99.1	100.7	100.7	100.6	100.2	99.7	99.4	101.7	103.8	104.2	104.8	106.2	107.7	109.2	110.6	113.0	114.5	116.0	116.9
2.00	98.3	100.1	100.3	100.6	100.6	100.5	99.7	101.7	103.6	104.1	104.7	106.2	107.7	109.2	110.7	112.9	114.2	115.6	115.9
2.50	95.8	98.8	99.0	99.3	99.6	100.2	99.8	101.6	103.3	103.7	104.4	105.9	107.4	108.9	110.3	112.2	113.6	114.8	114.9
3.15	96.1	97.9	98.0	98.0	98.3	98.8	98.9	101.2	102.8	103.3	104.0	105.5	107.0	108.4	109.7	111.4	112.4	113.1	113.8
4.00	95.7	97.3	97.4	97.4	97.5	97.6	97.7	100.1	102.1	102.7	103.6	105.0	106.4	107.6	108.8	110.4	111.3	112.1	112.6
5.00	95.1	96.7	96.8	96.9	97.0	97.2	97.0	99.2	100.7	101.8	103.1	104.5	105.9	106.9	107.9	109.5	110.5	111.5	111.5
6.30	94.1	95.7	95.8	95.9	96.2	96.5	96.3	98.4	99.1	100.5	102.3	103.8	105.1	106.0	106.9	108.4	109.4	110.3	110.3
8.00	92.8	94.4	94.5	94.7	94.9	95.2	95.3	97.4	97.8	99.4	101.3	102.8	104.1	105.0	105.8	107.2	108.1	108.9	108.9
10.0	91.3	93.0	93.1	93.2	93.4	93.8	94.1	96.1	96.4	98.2	100.4	101.8	103.0	103.7	104.4	105.9	106.6	107.4	107.4
OVERALL	107.3	111.9	112.0	112.1	112.2	112.3	112.6	114.5	116.0	116.2	116.7	118.0	119.6	120.9	122.3	125.7	127.8	129.7	131.4
FNDB	120.1	123.7	123.8	124.0	124.1	124.4	124.4	126.5	128.1	128.4	129.2	130.5	132.1	133.3	134.7	137.1	138.6	140.1	141.0
PHLT	120.1	123.7	123.8	124.0	124.1	124.4	124.4	126.5	128.1	128.4	129.2	130.5	132.1	133.3	134.7	137.1	138.6	140.1	141.0

D-3

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 4

TAM (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1438.0	PRIMARY AREA (SQ. FT.)	=	2.980
TID (DEG. R.)	=	1256.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	138.4	PLUS RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1431.0	DUCT ID R/DIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	1838.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	78.0	91.0	91.1	91.2	91.4	91.5	91.4	93.9	95.2	94.3	94.1	94.5	96.0	96.3	97.3	106.5	110.7	114.4	116.5
.063	79.1	92.2	92.2	92.4	92.5	92.7	92.7	95.1	96.3	95.7	95.7	96.2	97.6	98.2	99.4	108.4	112.3	115.8	117.6
.080	80.3	93.3	93.4	93.5	93.7	93.9	94.0	96.2	97.5	97.1	97.3	97.9	99.2	100.0	101.4	109.9	113.7	117.0	118.4
.100	81.4	94.5	94.6	94.7	94.8	95.0	95.2	97.2	98.5	98.3	98.7	99.3	100.5	101.5	103.1	111.2	114.7	117.6	118.4
.125	82.5	95.6	95.7	95.8	96.0	96.1	96.4	98.1	99.5	99.4	99.9	100.6	101.8	102.9	104.6	112.1	115.2	117.8	117.9
.160	83.8	96.7	96.8	96.9	97.1	97.3	97.7	99.1	100.5	100.5	101.1	101.8	103.0	104.3	106.0	112.8	115.3	117.4	117.1
.200	85.0	97.6	97.6	97.7	97.9	98.1	98.8	100.0	101.2	101.4	102.0	102.8	104.0	105.3	107.1	112.9	115.1	116.7	116.3
.250	86.2	98.2	98.2	98.3	98.5	98.8	99.8	100.6	101.9	102.0	102.7	103.5	104.8	106.2	107.9	112.6	114.5	115.9	115.5
.315	87.5	98.6	98.7	98.8	98.9	99.2	100.4	101.2	102.4	102.5	103.1	104.0	105.3	106.7	108.4	112.2	113.8	115.1	114.8
.400	88.9	98.8	98.9	99.0	99.1	99.4	100.4	101.4	102.7	102.7	103.2	104.1	105.5	107.0	108.6	111.5	113.0	114.3	114.3
.500	89.5	98.6	98.7	98.8	98.9	99.2	99.9	101.1	102.6	102.5	103.0	104.0	105.5	106.9	108.5	110.9	112.4	113.6	113.9
.630	90.0	98.2	98.3	98.4	98.5	98.8	99.4	100.7	102.4	102.2	102.6	103.8	105.4	106.8	108.3	110.4	111.8	113.0	113.8
.800	92.9	98.2	98.2	98.1	98.1	98.3	98.8	100.2	102.2	102.0	102.3	103.6	105.3	106.7	108.0	110.1	111.4	112.6	113.8
1.00	95.0	98.9	98.7	98.5	98.3	98.2	98.4	99.8	102.1	101.9	102.1	103.5	105.3	106.6	107.9	110.0	111.3	112.5	113.9
1.25	99.3	100.6	100.2	99.7	99.1	98.7	98.3	99.6	102.0	101.8	102.1	103.7	105.4	106.6	107.9	110.1	111.4	112.6	113.7
1.60	100.3	101.3	101.2	101.1	100.9	100.3	98.8	99.6	102.0	102.0	102.4	103.9	105.4	106.7	108.0	110.4	111.7	112.9	113.1
2.00	98.6	99.9	100.2	100.6	101.1	101.1	99.7	99.9	102.0	101.9	102.3	103.8	105.4	106.7	108.0	110.5	111.7	112.8	112.3
2.50	95.8	98.4	98.6	99.0	99.4	100.1	99.6	100.2	102.0	101.8	102.1	103.6	105.1	106.4	107.6	109.9	111.1	112.2	111.3
3.15	95.6	97.8	97.9	97.9	97.9	98.4	98.2	99.5	101.7	101.7	102.1	103.3	104.8	105.9	107.1	109.1	110.2	111.2	110.3
4.00	95.3	97.4	97.4	97.5	97.5	97.6	97.8	98.2	100.7	101.1	101.8	103.1	104.4	105.3	106.2	108.1	108.8	109.4	109.2
5.00	95.3	96.5	96.6	96.8	97.1	97.3	96.5	97.4	99.3	99.9	101.0	102.5	104.0	104.7	105.4	107.2	108.0	108.7	108.1
6.30	94.1	95.4	95.5	95.7	96.0	96.4	95.9	95.7	98.0	98.8	100.1	101.6	103.0	103.8	104.6	106.2	107.0	107.9	106.9
8.00	92.8	94.0	94.2	94.4	94.6	95.0	94.7	95.7	96.8	97.8	99.3	100.7	102.0	102.7	103.4	105.0	105.7	106.5	105.5
10.0	91.3	92.6	92.7	92.9	93.2	93.6	93.4	94.3	95.3	96.6	98.3	99.7	100.9	101.4	102.0	103.7	104.3	105.0	104.0
OVERALL	107.3	111.4	111.4	111.5	111.6	111.7	111.7	112.9	114.6	114.6	115.1	116.3	117.7	118.9	120.3	124.0	126.1	128.0	128.4
PNDB	120.3	123.4	123.4	123.5	123.8	124.1	123.8	124.8	126.8	126.8	127.4	128.6	130.0	131.2	132.4	135.1	136.5	137.8	137.5
PNLT	120.3	123.4	123.4	123.5	123.8	124.1	123.8	124.8	126.8	126.8	127.4	128.6	130.0	131.2	132.4	135.1	136.5	137.8	137.5

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTED MODEL JET NOISE PREDICTIONS

CONDITION 5

TAM (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1425.0	PRIMARY AREA (SQ. FT.)	=	2.930
TTD (DEG. R.)	=	1053.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	139.0	PLUS RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1474.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	1679.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	77.0	90.2	90.2	90.3	90.5	90.6	90.6	92.9	94.3	93.5	93.4	93.8	95.1	95.5	96.5	105.9	110.0	113.6	115.6
.063	78.2	91.3	91.4	91.5	91.6	91.8	91.9	94.1	95.4	94.9	95.0	95.5	96.7	97.3	98.6	107.7	111.6	115.0	116.7
.080	79.5	92.5	92.6	92.7	92.8	93.0	93.2	95.2	96.6	96.3	96.6	97.2	98.3	99.1	100.6	109.2	113.0	116.2	117.3
.100	80.8	93.7	93.7	93.9	94.0	94.2	94.4	96.2	97.6	97.4	97.9	98.6	99.7	100.7	102.3	110.4	113.9	116.7	117.2
.125	82.0	94.8	94.8	95.0	95.1	95.3	95.6	97.1	98.6	98.5	99.1	99.8	101.0	102.1	103.7	111.3	114.3	116.8	116.6
.160	83.5	95.9	96.0	96.1	96.2	96.4	96.8	98.1	99.5	99.6	100.3	101.1	102.2	103.4	105.1	111.9	114.4	116.3	115.7
.200	84.8	96.7	96.7	96.8	97.0	97.2	97.9	98.9	100.3	100.4	101.2	101.9	103.1	104.4	106.2	112.0	114.0	115.6	114.8
.250	86.2	97.3	97.3	97.4	97.5	97.8	98.9	99.6	100.9	101.1	101.8	102.6	103.9	105.2	106.9	111.6	113.4	114.7	113.9
.315	87.6	97.7	97.8	97.9	98.0	98.3	99.4	100.1	101.5	101.6	102.2	103.1	104.3	105.7	107.3	111.1	112.7	113.9	113.1
.400	89.0	97.9	98.0	98.0	98.1	98.4	99.3	100.2	101.6	101.6	102.2	103.1	104.5	105.8	107.4	110.4	111.9	113.0	112.2
.500	89.4	97.6	97.7	97.8	97.9	98.2	98.8	99.9	101.5	101.4	101.9	102.9	104.4	105.8	107.2	109.8	111.2	112.3	111.6
.630	90.3	97.3	97.3	97.4	97.5	97.8	98.3	99.3	101.3	101.1	101.5	102.7	104.3	105.6	107.0	109.3	110.6	111.6	111.0
.800	93.7	97.7	97.6	97.4	97.3	97.3	97.8	98.8	101.2	100.8	101.2	102.4	104.1	105.4	106.7	108.9	110.1	111.1	110.7
1.00	97.2	99.0	99.7	98.3	97.9	97.6	97.5	98.4	101.0	100.6	100.9	102.3	104.1	105.3	106.5	108.7	109.9	110.9	110.5
1.25	100.4	101.3	100.8	100.2	99.5	98.7	97.7	98.3	101.0	100.5	100.9	102.4	104.1	105.2	106.4	108.8	109.9	110.7	110.3
1.60	100.8	101.7	101.8	101.6	101.4	101.1	98.8	93.6	101.0	100.7	101.0	102.4	104.0	105.2	106.3	109.1	110.1	111.0	109.7
2.00	98.9	99.9	100.2	100.6	101.1	101.7	99.9	99.5	101.2	100.8	100.9	102.4	103.9	105.1	106.3	109.1	110.0	110.9	108.9
2.50	97.3	98.3	98.5	98.9	99.4	100.1	99.4	99.8	101.5	101.0	101.0	102.2	103.7	104.7	105.8	108.5	109.4	110.3	108.0
3.15	97.1	98.0	98.0	98.1	98.1	98.3	97.8	93.6	101.1	101.0	101.2	102.3	103.5	104.3	105.2	107.7	108.5	109.3	106.9
4.00	96.7	97.6	97.7	97.7	97.7	97.8	96.7	97.1	99.9	100.0	100.7	102.1	103.3	103.8	104.4	105.7	107.1	107.5	105.8
5.00	95.7	96.6	96.7	96.9	97.2	97.6	96.4	96.6	98.4	98.7	99.7	101.2	102.6	103.3	103.8	105.8	106.3	106.8	104.7
6.30	94.5	95.4	95.5	95.8	96.0	96.4	95.6	96.0	97.3	97.7	98.8	100.2	101.6	102.3	102.9	104.8	105.4	106.0	103.5
8.00	93.0	94.0	94.2	94.4	94.7	95.1	94.4	94.8	96.2	96.8	98.0	99.4	100.6	101.0	101.6	103.6	104.1	104.6	102.2
10.0	91.5	92.5	92.7	92.9	93.2	93.6	93.0	93.4	94.6	95.5	97.1	98.5	99.6	99.9	100.2	102.3	102.7	103.1	100.7
OVERALL	109.3	111.1	111.1	111.2	111.2	111.4	111.1	111.8	113.7	113.6	114.1	115.2	116.6	117.7	119.0	123.0	124.9	126.8	126.7
FNDB	120.8	123.3	123.4	123.4	123.6	123.9	123.4	124.0	126.0	125.9	126.3	127.5	128.8	129.7	130.8	133.9	135.1	135.1	134.7
PNLT	120.8	123.3	123.4	123.4	123.6	123.9	123.4	124.0	126.0	125.9	126.3	127.5	128.8	129.7	130.8	133.9	135.1	135.1	134.7

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 6

TAN (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.946
TOTAL TEMP (DEG. R.)	=	1442.0	PRIMARY AREA (SQ. FT.)	=	2.930
TTD (DEG. R.)	=	1961.0	DUCT AREA (SQ. FT.)	=	1.936
MASSFLOW (LB/SEC)	=	137.1	PLUS RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1474.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	2195.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	80.6	91.7	91.8	91.9	92.1	92.2	91.9	95.1	95.1	94.9	94.5	95.0	97.2	97.5	98.4	105.9	111.2	115.0	117.5
.063	81.5	92.9	93.0	93.1	93.2	93.4	93.2	96.2	97.3	95.3	96.2	96.7	98.7	99.2	100.4	103.8	112.8	116.4	118.8
.080	82.5	94.1	94.1	94.3	94.4	94.6	94.6	97.3	93.4	97.7	97.8	93.4	100.2	100.9	102.3	110.4	114.3	117.7	119.7
.100	83.4	95.2	95.3	95.4	95.5	95.7	95.8	98.3	99.4	99.0	99.2	99.9	101.5	102.5	104.3	111.7	115.4	118.5	119.9
.125	84.3	96.3	96.4	96.5	96.7	96.8	96.9	99.2	100.4	100.1	100.5	101.2	102.8	103.9	105.5	112.7	116.0	118.8	119.7
.160	85.2	97.4	97.5	97.6	97.8	98.0	98.2	100.2	101.4	101.2	101.7	102.5	104.0	105.2	106.9	113.5	116.3	119.6	119.2
.200	86.1	98.3	98.4	98.5	98.7	98.9	99.3	101.0	102.2	102.2	102.7	103.5	105.0	106.3	108.1	113.8	116.1	118.0	118.8
.250	87.0	99.0	99.0	99.2	99.3	99.6	100.3	101.8	102.9	102.9	103.4	104.3	105.8	107.2	109.0	113.7	115.7	117.3	118.5
.315	88.0	99.4	99.5	99.6	99.8	100.1	101.1	102.4	103.5	103.5	104.0	104.9	106.5	107.9	109.6	113.3	115.1	116.6	118.4
.400	89.0	99.7	99.8	99.9	100.1	100.4	101.3	102.8	103.9	103.9	104.2	105.2	106.8	108.3	109.9	112.8	114.5	115.9	118.5
.500	89.9	99.6	99.6	99.8	99.9	100.1	100.9	102.6	103.9	103.8	104.0	105.2	106.9	108.4	110.0	112.4	114.0	115.5	118.0
.630	90.8	99.3	99.3	99.4	99.6	99.8	100.4	102.3	103.8	103.6	103.9	105.2	107.0	108.5	110.0	112.1	113.8	115.3	119.0
.800	91.6	98.8	98.9	99.0	99.2	99.4	99.9	102.0	103.7	103.6	103.6	105.2	107.1	108.6	110.3	112.1	113.7	115.3	118.7
1.00	92.6	98.5	98.6	98.7	98.8	99.0	99.5	101.8	103.6	103.6	103.9	105.4	107.3	108.7	110.1	112.3	114.0	115.6	118.2
1.25	93.9	98.4	98.4	98.4	98.5	98.7	99.1	101.8	103.7	103.8	104.2	105.8	107.5	108.9	110.4	112.7	114.4	116.1	117.3
1.60	95.3	98.4	98.4	98.3	98.3	98.3	98.8	101.6	103.5	104.1	104.8	106.2	107.6	109.2	110.7	113.0	114.6	116.1	116.3
2.00	95.2	98.5	98.5	98.5	98.3	98.2	98.5	101.4	103.3	103.9	104.7	106.1	107.6	109.2	110.8	112.8	114.2	115.6	115.4
2.50	95.5	97.9	98.0	98.2	98.2	98.2	98.3	101.0	102.8	103.5	104.3	105.8	107.3	108.8	110.3	112.1	113.5	114.7	114.3
3.15	94.4	96.8	96.9	97.1	97.4	97.8	97.9	100.5	102.2	102.9	103.8	105.4	106.9	108.3	109.7	111.3	112.2	112.8	113.2
4.00	93.5	95.8	95.8	95.9	96.1	96.5	97.0	99.3	101.5	102.2	103.2	104.8	106.2	107.5	108.7	110.3	111.2	112.1	112.0
5.00	93.2	95.3	95.3	95.4	95.5	95.6	95.2	99.0	100.2	101.4	102.8	104.2	105.5	106.7	107.8	109.4	110.4	111.4	110.9
6.30	92.5	94.5	94.6	94.7	94.8	95.0	95.3	98.0	99.6	100.2	102.1	103.5	104.8	105.8	106.8	108.3	109.2	110.1	109.7
8.00	91.3	93.3	93.4	93.5	93.6	94.0	94.4	96.9	97.1	99.3	101.2	102.6	103.9	104.7	105.6	107.0	107.9	108.7	109.3
10.0	89.9	91.9	92.0	92.1	92.3	92.6	93.3	95.8	95.7	97.8	100.2	101.6	102.8	103.6	104.3	105.7	106.5	107.2	106.9
OVERALL	105.3	111.1	111.2	111.3	111.4	111.6	112.1	114.3	115.7	115.9	116.6	117.8	119.4	120.8	122.2	125.5	127.6	129.6	131.2
FNBB	118.4	122.7	122.8	123.0	123.1	123.4	123.7	126.1	127.6	128.1	129.0	130.4	131.9	133.2	134.6	137.0	139.5	140.0	140.6
PNLT	118.4	122.7	122.8	123.0	123.1	123.4	123.7	126.1	127.6	128.1	129.0	130.4	131.9	133.2	134.6	137.0	139.5	140.0	140.6

D-0

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U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 7

TAM (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1446.0	PRIMARY AREA (SQ. FT.)	=	2.980
TTD (DEG. R.)	=	1953.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	137.0	PLUG RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1477.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	2471.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	86.2	93.6	93.7	93.8	93.9	94.0	93.4	97.8	93.4	96.4	95.8	96.6	100.1	100.5	101.2	108.3	112.7	116.6	119.7
.063	87.2	94.8	94.8	94.9	95.1	95.2	94.7	98.8	99.5	97.9	97.5	98.3	101.5	102.0	103.0	110.2	114.3	118.0	121.0
.080	88.2	95.9	96.0	96.1	96.2	96.3	96.0	99.8	100.5	99.3	99.1	100.0	102.8	103.5	104.7	111.9	115.9	119.4	122.0
.100	89.1	97.0	97.1	97.2	97.3	97.4	97.2	100.7	101.6	100.6	100.5	101.5	104.0	104.9	106.3	113.2	117.0	120.3	122.5
.125	90.1	98.1	98.2	98.3	98.4	98.6	98.4	101.6	102.5	101.7	101.9	102.8	105.2	106.2	107.7	114.3	117.8	120.8	122.5
.160	91.1	99.3	99.4	99.5	99.6	99.7	99.6	102.5	103.5	102.9	103.1	104.2	106.4	107.6	109.1	115.2	118.2	120.7	122.4
.200	92.1	100.2	100.3	100.4	100.5	100.7	100.7	103.4	104.3	103.9	104.2	105.3	107.4	108.7	110.3	115.7	118.2	120.4	122.3
.250	93.1	100.9	101.0	101.1	101.2	101.4	101.8	104.1	105.0	104.7	105.0	106.2	108.3	109.6	111.3	115.8	118.0	119.6	122.4
.315	94.2	101.5	101.6	101.7	101.8	102.0	102.8	104.7	105.7	105.4	105.7	107.0	109.0	110.5	112.1	115.6	117.6	119.4	122.7
.400	95.1	102.0	102.1	102.2	102.3	102.5	103.1	105.3	106.3	105.9	106.2	107.5	109.6	111.0	112.6	115.5	117.4	119.2	123.0
.500	95.9	102.0	102.1	102.2	102.3	102.5	102.9	105.4	106.4	106.2	106.2	107.8	109.9	111.4	113.0	115.5	117.4	119.1	122.7
.630	97.0	102.0	102.0	102.0	102.1	102.3	102.5	105.4	106.5	106.3	106.4	108.1	110.2	111.7	113.3	115.7	117.6	119.4	122.2
.800	98.9	102.3	102.2	102.1	102.1	102.1	102.2	105.3	106.6	106.6	106.8	108.5	110.6	112.1	113.7	116.2	118.1	120.0	121.4
1.00	101.2	103.1	102.9	102.7	102.5	102.3	102.1	105.5	106.8	107.0	107.4	109.1	111.0	112.6	114.2	116.8	118.7	120.7	120.5
1.25	103.0	104.2	104.2	103.9	103.3	102.9	102.2	105.6	106.9	107.6	108.3	109.8	111.3	113.0	114.7	117.4	119.2	120.8	119.5
1.60	102.7	104.0	104.2	104.4	104.3	104.1	102.7	105.7	106.9	107.9	108.9	110.2	111.5	113.3	115.2	117.5	118.9	120.4	118.4
2.00	101.5	102.8	103.0	103.3	103.7	104.3	103.2	105.8	106.8	107.7	108.8	110.1	111.4	113.2	115.0	117.0	118.3	119.5	117.4
2.50	100.7	101.9	101.9	102.1	102.4	102.9	102.7	105.6	106.5	107.4	108.5	109.8	111.1	112.8	114.5	116.2	117.2	117.7	116.3
3.15	100.4	101.4	101.5	101.5	101.5	101.6	101.5	104.9	106.0	107.0	108.1	109.4	110.7	112.2	113.8	115.3	116.1	116.9	115.2
4.00	99.7	100.7	100.8	101.0	101.0	101.1	100.6	103.8	104.9	105.3	107.7	108.9	110.0	111.4	112.8	114.3	115.2	116.2	114.0
5.00	93.9	99.9	100.0	100.2	100.4	100.7	100.1	103.1	103.4	105.2	107.1	108.3	109.4	110.6	111.9	113.3	114.3	115.1	112.9
6.30	97.9	99.0	99.1	99.2	99.4	99.7	99.3	102.3	102.0	104.0	106.3	107.5	108.6	109.8	110.9	112.2	113.1	113.8	111.7
8.00	96.6	97.7	97.8	97.9	98.1	98.4	98.1	101.2	100.8	102.9	105.4	106.5	107.6	108.7	109.7	111.0	111.8	112.4	110.3
10.0	95.2	96.3	96.4	96.5	96.7	97.0	96.9	99.9	99.3	101.7	104.4	105.5	106.5	107.5	108.4	109.7	110.3	110.9	108.8
OVERALL	111.8	114.6	114.7	114.7	114.8	114.9	114.7	117.6	118.6	119.0	119.8	121.2	122.8	124.3	125.8	128.7	130.7	132.7	134.2
PNDB	124.5	126.8	126.8	126.9	127.0	127.2	127.0	130.0	130.9	131.7	132.7	134.0	135.4	136.9	138.4	140.7	142.1	143.4	145.1
PHLT	124.5	126.8	126.8	126.9	127.0	127.2	127.0	130.0	130.9	131.7	132.7	134.0	135.4	136.9	138.4	140.7	142.1	143.4	145.1

D-7

W155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

TAN (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1446.0	PRIMARY AREA (SQ. FT.)	=	2.980
TID (DEG. R.)	=	1959.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	137.3	PLUS RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1480.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	2399.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	84.8	93.1	93.2	93.3	93.4	93.5	93.0	97.1	97.8	96.0	95.5	96.1	99.3	99.7	100.5	107.9	112.3	116.2	119.1
.063	85.8	94.3	94.4	94.5	94.6	94.7	94.3	98.1	98.9	97.5	97.2	97.9	100.7	101.2	102.2	109.8	113.9	117.6	120.4
.080	86.8	95.4	95.5	95.6	95.7	95.8	95.6	99.1	100.0	98.9	98.8	99.5	102.0	102.8	104.0	111.5	115.5	119.0	121.4
.100	87.7	96.5	96.6	96.7	96.8	97.0	96.8	100.1	101.0	100.2	100.2	101.0	103.3	104.3	105.6	112.8	116.6	119.9	121.9
.125	88.6	97.7	97.7	97.8	98.0	98.1	98.0	100.9	101.9	101.5	101.5	102.4	104.5	105.6	107.1	113.9	117.4	120.3	121.8
.160	89.7	98.8	98.9	99.0	99.1	99.3	99.3	101.9	102.9	102.5	102.8	103.7	105.7	106.9	108.5	114.7	117.7	120.2	121.6
.200	90.6	99.7	99.8	99.9	100.0	100.2	100.4	102.7	103.8	103.5	103.8	104.8	106.7	108.0	109.7	115.2	117.7	119.8	121.4
.250	91.6	100.4	100.5	100.6	100.7	100.9	101.4	103.5	104.5	104.3	104.6	105.7	107.6	109.0	110.7	115.2	117.4	119.2	121.4
.315	92.6	101.0	101.0	101.1	101.3	101.5	102.3	104.1	105.1	104.9	105.3	106.4	108.3	109.8	111.4	115.0	117.0	118.6	121.6
.400	93.7	101.4	101.5	101.6	101.7	102.0	102.7	104.7	105.7	105.5	105.7	106.9	108.8	110.3	111.9	114.8	116.7	118.3	122.0
.500	94.4	101.4	101.4	101.5	101.7	101.9	102.3	104.6	105.8	105.5	105.7	107.1	109.1	110.6	112.2	114.6	116.5	118.2	121.9
.630	95.3	101.2	101.3	101.4	101.5	101.7	102.0	104.6	105.8	105.6	105.7	107.3	109.4	110.9	112.4	114.7	116.6	118.3	121.4
.800	96.9	101.2	101.2	101.2	101.4	101.6	101.6	104.5	105.8	105.8	105.9	107.6	109.6	111.2	112.7	115.1	116.9	118.7	120.7
1.00	98.9	101.7	101.6	101.5	101.4	101.3	101.3	104.5	106.0	106.1	106.4	108.1	110.0	111.6	113.1	115.6	117.5	119.3	119.8
1.25	101.2	102.8	102.5	102.2	101.8	101.6	101.3	104.6	106.1	106.6	107.2	108.7	110.3	112.0	113.6	116.2	118.0	119.6	118.9
1.60	101.6	103.0	103.0	102.9	102.8	102.4	101.6	104.6	106.1	106.9	107.8	109.2	110.5	112.3	114.1	116.5	117.9	119.3	117.8
2.00	100.4	101.9	102.1	102.4	102.8	102.8	102.0	104.6	105.9	106.6	107.7	109.1	110.4	112.2	114.0	115.9	117.3	118.5	116.7
2.50	99.2	100.7	100.9	101.1	101.5	102.0	101.9	104.5	105.5	105.4	107.4	108.7	110.1	111.8	113.3	115.2	116.3	117.0	115.7
3.15	93.9	100.2	100.3	100.3	100.3	100.7	100.7	103.8	105.0	105.9	107.0	108.3	109.7	111.2	112.8	114.3	115.1	116.0	114.6
4.00	93.4	99.6	99.7	99.7	99.7	99.8	99.6	102.3	104.1	105.3	106.5	107.8	109.0	110.4	111.8	113.2	114.2	115.2	113.4
5.00	97.6	98.8	98.9	99.1	99.3	99.4	99.0	102.0	102.6	104.2	106.0	107.3	108.4	109.6	111.0	112.3	113.3	114.2	112.3
6.30	96.7	97.9	98.0	98.1	98.3	98.6	98.3	101.2	101.1	103.0	105.2	106.5	107.7	108.8	109.9	111.2	112.1	113.0	111.1
8.00	95.4	96.6	96.7	96.8	97.0	97.3	97.2	100.1	99.8	101.9	104.3	105.5	106.7	107.7	108.7	110.0	110.8	111.5	109.7
10.0	94.0	95.2	95.3	95.4	95.6	95.9	96.0	98.9	98.4	100.7	103.3	104.5	105.5	106.5	107.4	108.7	109.4	110.0	108.2
OVERALL	110.3	113.7	113.8	113.8	113.9	114.0	114.0	116.7	117.8	118.2	118.9	120.3	121.9	123.4	124.9	127.9	129.9	131.9	133.4
PNED	123.1	125.8	125.8	125.9	126.0	126.3	126.2	129.0	130.0	130.8	131.7	133.0	134.5	136.0	137.5	139.7	141.2	142.5	142.4
PNLT	123.1	125.8	125.8	125.9	126.0	126.3	126.2	129.0	130.0	130.8	131.7	133.0	134.5	136.0	137.5	139.7	141.2	142.5	142.4

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

CONDITION 9

TAN (DEG. R.) = 537.0
TOTAL TEMP (DEG. R.) = 1443.0
TTO (DEG. R.) = 1262.0
MASSFLOW (LB/SEC) = 137.6
PRIMARY VELOCITY (FT./SEC) = 1479.0
DUCT VELOCITY (FT./SEC) = 1978.0

PRIMARY DIAMETER (FT.) = 1.948
PRIMARY AREA (SQ. FT.) = 2.980
DUCT AREA (SQ. FT.) = 1.930
PLUS RADIUS (FT.) = 0.0
DUCT ID RADIUS (FT.) = 0.974
PRIMARY RADIUS RATIO = 0.0
DUCT RADIUS RATIO = 0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	82.0	92.2	92.2	92.3	92.5	92.6	92.4	95.3	96.5	95.2	95.0	95.4	97.4	97.7	98.6	107.4	111.6	115.3	117.6
.063	83.2	93.3	93.4	93.5	93.6	93.8	93.7	96.4	97.6	96.7	96.6	97.1	98.9	99.4	100.6	109.2	113.2	116.7	118.9
.080	84.4	94.5	94.6	94.7	94.8	95.0	95.0	97.5	98.8	98.1	98.2	98.8	100.4	101.2	102.5	110.8	114.6	118.0	119.7
.100	85.7	95.7	95.8	95.9	96.0	96.1	96.2	93.5	99.8	99.3	99.6	100.2	101.8	102.7	104.2	112.1	115.6	118.7	119.9
.125	86.9	96.8	96.9	97.0	97.1	97.3	97.4	99.4	100.7	100.4	100.8	101.5	103.0	104.1	105.7	113.1	116.3	118.9	119.5
.160	88.3	98.0	98.1	98.1	98.3	98.4	98.7	100.4	101.7	101.6	102.1	102.8	104.3	105.5	107.2	113.8	116.4	118.6	118.9
.200	89.7	98.9	98.9	99.0	99.1	99.3	99.8	101.2	102.5	102.4	103.0	103.8	105.2	106.6	108.3	114.0	116.2	118.0	118.4
.250	91.0	99.6	99.6	99.7	99.8	100.0	100.8	102.0	103.2	103.2	103.7	104.6	106.0	107.4	109.2	113.8	115.7	117.2	117.9
.315	92.4	100.1	100.2	100.3	100.3	100.6	101.5	102.6	103.8	103.7	104.2	105.1	106.6	108.1	109.7	113.4	115.1	116.5	117.6
.400	93.0	100.4	100.5	100.6	100.7	100.9	101.7	102.9	104.2	104.0	104.4	105.4	107.0	108.4	110.0	112.9	114.5	115.8	117.6
.500	93.5	100.3	100.3	100.4	100.5	100.8	101.3	102.7	104.1	103.9	104.2	105.3	107.0	108.5	110.0	112.4	113.9	115.2	117.8
.630	95.4	100.6	100.5	100.4	100.3	100.4	100.8	102.4	104.1	103.8	104.0	105.2	107.1	108.5	109.9	112.1	113.6	114.9	118.2
.800	99.9	101.9	101.6	101.2	100.8	100.5	100.4	102.1	104.0	103.7	103.8	105.2	107.1	108.5	109.8	111.9	113.4	114.8	118.6
1.00	103.4	104.1	103.6	103.0	102.2	101.5	100.5	101.9	104.0	103.7	103.8	105.4	107.3	108.6	109.9	112.0	113.5	114.9	118.6
1.25	104.6	105.1	105.0	104.8	104.6	103.4	101.3	102.2	104.1	103.9	104.0	105.7	107.5	108.8	110.1	112.4	113.9	115.3	118.1
1.60	102.9	103.8	104.1	104.5	105.1	105.0	103.0	102.9	104.3	104.3	104.6	106.1	107.6	109.0	110.4	112.8	114.3	115.7	117.4
2.00	101.1	102.2	102.5	102.9	103.4	104.1	103.3	103.7	104.8	104.6	104.8	106.1	107.6	109.1	110.5	112.9	114.2	115.5	116.4
2.50	100.9	101.7	101.7	101.7	101.8	102.4	101.8	103.3	104.9	104.9	105.0	106.1	107.5	108.8	110.1	112.3	113.6	114.8	115.5
3.15	100.7	101.4	101.4	101.4	101.5	101.5	100.4	102.0	104.2	104.6	105.1	106.2	107.3	108.4	109.6	111.5	112.6	113.5	114.4
4.00	99.6	100.4	100.6	100.8	101.1	101.2	99.9	101.0	103.0	103.5	104.3	105.8	107.1	107.9	108.7	110.5	111.3	112.0	113.2
5.00	98.6	99.4	99.6	99.8	100.1	100.5	99.6	100.5	101.8	102.4	103.4	104.9	106.4	107.3	108.1	109.6	110.5	111.4	112.1
6.30	97.4	98.3	98.4	98.6	98.9	99.3	98.5	99.7	100.6	101.5	102.7	104.0	105.4	106.3	107.2	108.6	109.5	110.4	110.9
8.00	96.1	96.9	97.1	97.3	97.6	98.0	97.2	98.4	99.3	100.5	101.9	103.2	104.4	105.1	105.9	107.4	108.2	109.0	109.5
10.0	94.6	95.4	95.6	95.8	96.1	96.5	95.9	97.1	97.8	99.1	100.8	102.2	103.4	103.9	104.5	106.1	106.8	107.5	108.0
OVERALL	112.1	114.1	114.1	114.2	114.3	114.5	113.8	115.0	116.5	116.5	116.9	118.1	119.6	120.9	122.2	125.6	127.7	129.6	131.1
PNDB	124.4	126.4	126.4	126.5	126.6	126.7	126.1	127.4	129.0	129.2	129.7	130.9	132.2	133.4	134.6	137.2	138.6	140.0	141.2
PNLT	124.4	126.4	126.4	126.5	126.6	126.7	126.1	127.4	129.0	129.2	129.7	130.9	132.2	133.4	134.6	137.2	138.6	140.0	141.2

D-9

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTED MODEL JET NOISE PREDICTIONS

CONDITION 10

TAM (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.943
TOTAL TEMP (DEG. R.)	=	1437.0	PRIMARY AREA (SQ. FT.)	=	2.980
TID (DEG. R.)	=	1660.0	DUET AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	138.1	PLUS RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1478.0	DUET TO RADIUS (FT.)	=	0.974
DUET VELOCITY (FT./SEC)	=	2192.0	PRIMARY RADIUS RATIO	=	0.0
			DUET RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	82.7	92.5	92.6	92.7	92.9	93.0	92.6	96.1	97.0	95.6	95.2	95.7	98.2	98.5	99.3	107.6	111.9	115.7	118.3
.063	83.7	93.7	93.8	93.9	94.0	94.1	93.9	97.1	98.2	97.0	96.9	97.4	99.7	100.2	101.2	109.4	113.5	117.1	119.6
.080	84.7	94.9	94.9	95.0	95.2	95.3	95.3	98.2	99.3	93.4	98.4	99.1	101.1	101.8	103.1	111.1	115.0	118.4	120.5
.100	85.7	95.0	95.1	96.2	95.3	95.5	95.5	99.2	100.3	99.7	99.9	100.6	102.4	103.4	104.6	112.4	116.1	119.3	120.8
.125	86.7	97.1	97.2	97.3	97.4	97.6	97.6	100.1	101.3	100.8	101.1	101.9	103.7	104.7	106.3	113.4	116.8	119.6	120.7
.160	87.8	98.3	98.3	98.4	98.6	98.8	98.9	101.1	102.3	102.0	102.4	103.2	104.9	106.1	107.7	114.2	117.0	119.4	120.2
.200	88.9	99.2	99.2	99.3	99.5	99.7	100.0	101.9	103.1	102.9	103.4	104.2	105.9	107.2	108.9	114.6	116.9	118.9	119.8
.250	89.9	99.8	99.9	100.0	100.1	100.4	101.0	102.6	103.8	103.7	104.1	105.1	106.7	108.1	109.8	114.5	116.5	118.1	119.6
.315	91.1	100.4	100.4	100.5	100.6	100.9	101.9	103.2	104.4	104.3	104.7	105.7	107.4	108.8	110.5	114.1	115.9	117.5	119.6
.400	92.1	100.7	100.8	100.9	101.0	101.3	102.1	103.7	104.9	104.7	105.0	106.1	107.8	109.3	110.8	113.7	115.5	116.9	119.9
.500	92.8	100.6	100.7	100.8	100.9	101.1	101.7	103.6	104.9	104.7	104.9	106.1	108.0	109.4	110.9	113.3	115.0	116.6	120.3
.630	93.8	100.4	100.4	100.5	100.6	100.8	101.3	103.4	104.6	104.6	104.8	106.2	108.1	109.5	111.0	113.2	114.9	116.4	120.5
.800	95.0	100.5	100.4	100.4	100.4	100.5	100.3	103.1	104.6	104.6	104.7	106.3	108.3	109.7	111.1	113.3	115.0	116.6	120.2
1.00	96.6	101.2	101.0	100.8	100.6	100.5	100.5	103.0	104.9	104.8	104.9	106.6	108.5	109.9	111.4	113.6	115.3	116.9	119.6
1.25	101.1	102.6	102.3	101.9	101.4	100.9	100.5	103.1	105.0	105.1	105.4	107.1	109.8	110.3	111.7	114.0	115.8	117.5	119.8
1.60	101.4	102.7	102.9	102.8	102.6	102.3	100.9	103.2	104.9	105.5	106.1	107.5	109.0	110.5	112.1	114.5	116.1	117.6	117.7
2.00	99.9	101.4	101.6	101.9	102.4	102.0	101.6	103.3	104.9	105.4	106.1	107.5	109.0	110.6	112.2	114.2	115.7	117.1	116.8
2.50	98.7	100.1	100.3	100.5	100.9	101.5	101.3	103.3	104.7	105.1	105.8	107.2	108.7	110.2	111.8	113.6	114.9	116.1	115.7
3.15	98.5	99.7	99.8	99.8	99.8	100.1	100.0	102.6	104.3	104.8	105.5	106.8	108.3	109.7	111.1	112.8	113.6	114.3	114.6
4.00	97.9	99.1	99.2	99.2	99.3	99.4	99.9	101.5	103.4	104.2	105.1	106.4	107.7	109.0	110.2	111.7	112.6	113.6	113.4
5.00	97.0	98.2	98.4	98.5	98.3	99.0	98.4	100.7	101.9	103.1	104.5	105.9	107.2	108.2	109.3	110.8	111.8	112.9	112.3
6.30	96.0	97.2	97.4	97.5	97.8	98.1	97.7	99.9	100.4	101.9	103.7	105.1	106.4	107.4	108.4	109.7	110.7	111.6	111.1
8.00	94.7	95.9	96.0	96.2	96.4	96.8	96.6	98.9	99.2	100.8	102.3	104.1	105.3	106.3	107.2	108.5	109.4	110.2	109.7
10.0	93.2	94.5	94.6	94.8	95.0	95.4	95.3	97.6	97.7	99.6	101.8	103.1	104.3	105.0	105.8	107.2	108.0	108.7	108.2
OVERALL	109.7	113.2	113.2	113.3	113.3	113.5	113.5	115.6	117.0	117.1	117.7	119.0	120.6	122.0	123.4	126.6	128.7	130.6	132.4
PNDB	122.4	125.2	125.3	125.3	125.5	125.8	125.6	127.8	129.2	129.7	130.4	131.7	133.2	134.5	135.9	139.3	139.8	141.3	141.9
PNLT	122.4	125.2	125.3	125.3	125.5	125.8	125.6	127.8	129.2	129.7	130.4	131.7	133.2	134.5	135.9	139.3	139.8	141.3	141.9

D-10

UI55 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
TESTBED MODEL JET NOISE PREDICTIONS

TAN (DEG. R.) = 537.0
TOTAL TEMP (DEG. R.) = 1433.0
TID (DEG. R.) = 2018.0
MASSFLOW (LB/SEC) = 130.1
PRIMARY VELOCITY (FT./SEC) = 1474.0
DUCT VELOCITY (FT./SEC) = 2013.0

PRIMARY DIAMETER (FT.) = 1.943
PRIMARY AREA (SQ. FT.) = 2.920
DUCT AREA (SQ. FT.) = 1.930
PLUS RADIUS (FT.) = 0.0
DUCT ID RADIUS (FT.) = 0.974
PRIMARY RADIUS RATIO = 0.0
DUCT RADIUS RATIO = 0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	76.6	90.6	90.7	90.8	91.0	91.1	91.0	93.6	94.7	93.9	93.7	94.0	95.5	95.9	96.9	106.0	110.2	114.0	116.2
.063	77.5	91.8	91.8	92.0	92.1	92.3	92.3	94.8	95.8	95.3	95.3	95.7	97.1	97.7	99.0	107.9	111.9	115.4	117.4
.080	78.4	92.9	93.0	93.1	93.3	93.5	93.6	95.9	97.0	95.7	95.9	97.4	99.5	101.0	109.5	113.3	116.6	118.2	
.100	79.3	94.1	94.2	94.3	94.4	94.6	94.8	96.9	98.0	97.9	98.3	95.9	100.1	101.1	102.7	110.7	114.3	117.3	118.3
.125	80.1	95.2	95.3	95.4	95.5	95.7	95.0	97.8	99.0	99.0	99.5	100.1	101.3	102.5	104.2	111.7	114.9	117.5	117.9
.150	81.1	96.3	96.4	96.5	96.7	96.9	97.3	98.8	100.0	100.1	100.7	101.4	102.6	103.9	105.7	112.4	115.0	117.2	117.2
.200	81.9	97.1	97.2	97.3	97.5	97.7	98.4	99.6	100.8	101.0	101.6	102.4	103.6	105.0	106.8	112.6	114.8	116.5	116.6
.250	82.8	97.7	97.8	97.9	98.1	98.4	99.4	100.3	101.5	101.7	102.3	103.1	104.4	105.8	107.6	112.4	114.2	115.7	115.9
.315	83.7	98.2	98.3	98.4	98.5	98.9	100.0	100.9	102.0	102.2	102.8	103.6	104.9	105.4	108.2	111.9	113.6	114.9	115.5
.400	84.6	98.4	98.4	98.6	98.7	99.0	100.1	101.2	102.3	102.4	102.9	103.8	105.2	106.7	108.3	111.3	112.8	114.1	115.3
.500	85.5	98.1	98.2	98.3	98.4	98.7	99.6	100.9	102.2	102.2	102.7	103.7	105.2	106.6	108.2	110.7	112.2	113.4	115.3
.630	86.4	97.7	97.8	97.9	98.0	98.3	99.0	100.5	101.9	102.0	102.4	103.5	105.1	106.5	108.0	110.2	111.6	112.9	115.5
.800	87.3	97.1	97.2	97.3	97.5	97.7	98.5	100.0	101.7	101.7	102.1	103.3	105.0	106.4	107.8	109.3	111.3	112.5	115.7
1.00	88.1	96.7	96.7	96.9	97.0	97.3	98.0	99.6	101.5	101.5	101.9	103.3	104.9	106.3	107.7	109.7	111.1	112.5	115.5
1.25	88.9	96.2	96.2	96.3	96.5	96.7	97.5	99.3	101.3	101.4	101.9	103.3	105.0	106.3	107.7	109.8	111.2	112.6	114.9
1.60	89.4	95.6	95.6	95.7	95.9	96.1	97.0	99.0	101.1	101.5	102.1	103.5	105.0	106.4	107.7	110.0	111.4	112.8	114.1
2.00	89.5	95.0	95.0	95.1	95.2	95.5	96.5	98.6	100.8	101.2	102.0	103.4	104.9	106.3	107.7	109.9	111.2	112.4	113.1
2.50	89.0	94.2	94.3	94.4	94.5	94.8	95.9	98.1	100.3	100.7	101.6	103.1	104.5	105.9	107.3	109.2	110.5	111.7	112.1
3.15	88.6	93.4	93.5	93.6	93.7	94.0	95.2	97.4	99.6	100.1	101.0	102.6	104.1	105.4	106.7	108.4	109.5	110.3	111.1
4.00	87.8	92.5	92.6	92.7	92.8	93.1	94.4	96.6	98.7	99.3	100.4	102.0	103.5	104.8	105.7	107.4	108.2	109.0	109.9
5.00	87.3	91.8	91.8	91.9	92.1	92.4	93.7	95.0	97.4	98.4	99.9	101.4	102.8	103.9	104.9	106.5	107.4	108.3	108.8
6.30	86.8	90.9	91.0	91.1	91.2	91.5	92.9	94.9	95.9	97.3	99.2	100.7	102.0	102.9	103.9	105.4	106.4	107.3	107.6
8.00	85.7	89.8	89.8	89.9	90.0	90.4	91.9	93.8	94.5	95.2	96.3	99.8	101.1	101.9	102.7	104.2	105.0	105.9	106.2
10.0	84.4	88.4	88.5	88.6	88.7	89.1	90.8	92.6	93.0	94.9	97.3	99.8	100.0	100.7	101.3	102.8	103.6	104.4	104.7
OVERALL	99.8	109.2	109.3	109.4	109.5	109.8	110.6	112.2	113.7	114.0	114.6	115.8	117.2	118.5	120.0	123.6	125.7	127.7	128.9
PNDB	112.8	120.0	120.1	120.2	120.3	120.6	121.6	123.5	125.3	125.7	126.6	128.0	129.4	130.7	132.0	134.6	136.0	137.4	138.3
PHLT	112.8	120.0	120.1	120.2	120.3	120.6	121.6	123.5	125.3	125.7	126.6	128.0	129.4	130.7	132.0	134.6	135.0	137.4	138.3

U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTED MODEL JET NOISE PREDICTIONS

TAN (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1442.0	PRIMARY AREA (SQ. FT.)	=	2.920
WTD (DEG. R.)	=	1953.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	137.9	PLUS RADIUS (FT.)	=	0.6
PRIMARY VELOCITY (FT./SEC)	=	1461.0	DUCT ID RADIUS (FT.)	=	0.674
DUCT VELOCITY (FT./SEC)	=	2075.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	78.1	91.1	91.2	91.3	91.5	91.6	91.4	94.2	95.3	94.3	94.1	94.5	96.1	96.5	97.5	106.4	110.7	114.4	116.8
.063	79.0	92.3	92.3	92.5	92.6	92.8	92.7	95.4	96.4	95.8	95.7	96.2	97.7	98.3	99.5	103.3	112.3	115.7	118.0
.080	79.9	93.4	93.5	93.6	93.8	94.0	94.1	96.5	97.6	97.1	97.3	97.8	99.3	100.1	101.5	109.9	113.8	117.1	118.8
.100	80.8	94.6	94.7	94.8	94.9	95.1	95.3	97.5	98.6	98.4	98.7	99.3	100.7	101.7	103.2	111.2	114.8	117.8	119.0
.125	81.6	95.7	95.8	95.9	96.0	96.2	96.4	98.4	99.6	99.5	99.9	100.6	101.9	103.1	104.7	112.2	115.4	118.1	118.7
.160	82.6	96.8	96.9	97.0	97.2	97.4	97.7	99.4	100.6	100.6	101.2	101.9	103.2	104.4	106.2	112.9	115.6	117.8	118.0
.200	83.5	97.7	97.7	97.9	98.0	98.3	98.8	100.2	101.4	101.5	102.1	102.9	104.2	105.5	107.3	113.1	115.4	117.2	117.5
.250	84.3	98.3	98.4	98.5	98.6	98.9	99.8	100.9	102.1	102.2	102.8	103.6	105.0	106.4	108.2	112.9	114.9	116.4	116.9
.315	85.2	98.7	98.8	98.9	99.1	99.4	100.5	101.5	102.6	102.8	103.3	104.2	105.6	107.0	108.8	112.5	114.2	115.6	116.6
.400	86.2	99.0	99.0	99.2	99.3	99.6	100.6	101.9	103.0	103.1	103.5	104.4	105.9	107.3	109.0	111.9	113.5	114.8	116.6
.500	87.0	98.7	98.8	98.9	99.1	99.3	100.2	101.6	102.9	102.9	103.3	104.3	105.9	107.4	108.9	111.3	112.9	114.2	116.7
.630	87.9	98.3	98.4	98.5	98.7	98.9	99.6	101.2	102.7	102.6	103.0	104.2	105.8	107.3	108.8	110.9	112.5	113.8	117.0
.800	88.9	97.8	97.9	98.0	98.2	98.4	99.1	100.8	102.5	102.4	102.7	104.1	105.8	107.2	108.7	110.6	112.2	113.6	117.1
1.00	89.7	97.4	97.5	97.6	97.7	98.0	98.6	100.5	102.3	102.3	102.6	104.1	105.8	107.2	108.6	110.6	112.2	113.6	116.6
1.25	90.5	97.0	97.0	97.1	97.3	97.5	98.2	100.2	102.2	102.4	102.8	104.3	105.9	107.3	108.7	110.8	112.4	113.9	116.0
1.60	91.1	96.4	96.5	96.6	96.7	96.9	97.7	100.0	102.0	102.5	103.1	104.6	106.0	107.4	108.9	111.1	112.6	114.0	115.0
2.00	91.4	95.9	96.0	96.1	96.1	96.4	97.3	99.7	101.8	102.3	103.0	104.5	105.9	107.4	108.9	111.0	112.3	113.7	114.1
2.50	91.5	95.4	95.4	95.5	95.5	95.7	96.7	99.2	101.3	101.8	102.6	104.1	105.6	107.0	108.5	110.4	111.7	112.9	113.1
3.15	91.4	94.9	94.9	95.0	95.0	95.1	96.0	98.5	100.6	101.2	102.1	103.7	105.2	106.5	107.8	109.5	110.6	111.3	112.0
4.00	93.3	93.9	94.0	94.1	94.3	94.5	95.4	97.7	99.7	100.4	101.5	103.1	104.6	105.7	106.9	108.5	109.4	110.2	110.8
5.00	89.6	93.1	93.2	93.3	93.4	93.8	94.3	97.0	98.5	99.5	100.9	102.5	103.9	105.0	106.0	107.6	108.6	109.5	109.7
6.30	89.1	92.3	92.3	92.4	92.5	92.8	93.9	96.1	97.0	98.4	100.2	101.7	103.1	104.0	105.0	106.5	107.5	108.4	108.5
8.00	88.1	91.2	91.2	91.3	91.4	91.7	92.8	95.0	95.6	97.3	99.4	100.9	102.2	103.0	103.8	105.3	106.2	107.0	107.1
10.0	85.7	89.8	89.9	90.0	90.1	90.4	91.7	93.8	94.0	96.0	98.4	99.9	101.1	101.8	102.5	103.9	104.7	105.5	105.6
OVERALL	101.8	109.9	110.0	110.1	110.3	110.5	111.3	113.0	114.5	114.7	115.4	116.6	118.1	119.4	120.9	124.4	126.5	128.5	129.9
PNDB	115.1	121.1	121.1	121.2	121.3	121.5	122.4	124.5	126.2	126.7	127.5	128.9	130.4	131.7	133.0	135.5	137.0	138.4	139.3
PNLT	115.1	121.1	121.1	121.2	121.3	121.5	122.4	124.5	126.2	126.7	127.5	128.9	130.4	131.7	133.0	135.5	137.0	138.4	139.3

D-12

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U155 - COMPONENT ENGINE NOISE PREDICTION PROGRAM
VCE TESTBED MODEL JET NOISE PREDICTIONS

TAM (DEG. R.)	=	537.0	PRIMARY DIAMETER (FT.)	=	1.948
TOTAL TEMP (DEG. R.)	=	1451.0	PRIMARY AREA (SQ. FT.)	=	2.980
TID (DEG. R.)	=	1269.0	DUCT AREA (SQ. FT.)	=	1.930
MASSFLOW (LB/SEC)	=	138.2	PLUG RADIUS (FT.)	=	0.0
PRIMARY VELOCITY (FT./SEC)	=	1492.0	DUCT ID RADIUS (FT.)	=	0.974
DUCT VELOCITY (FT./SEC)	=	1666.0	PRIMARY RADIUS RATIO	=	0.0
			DUCT RADIUS RATIO	=	0.779

TOTAL JET

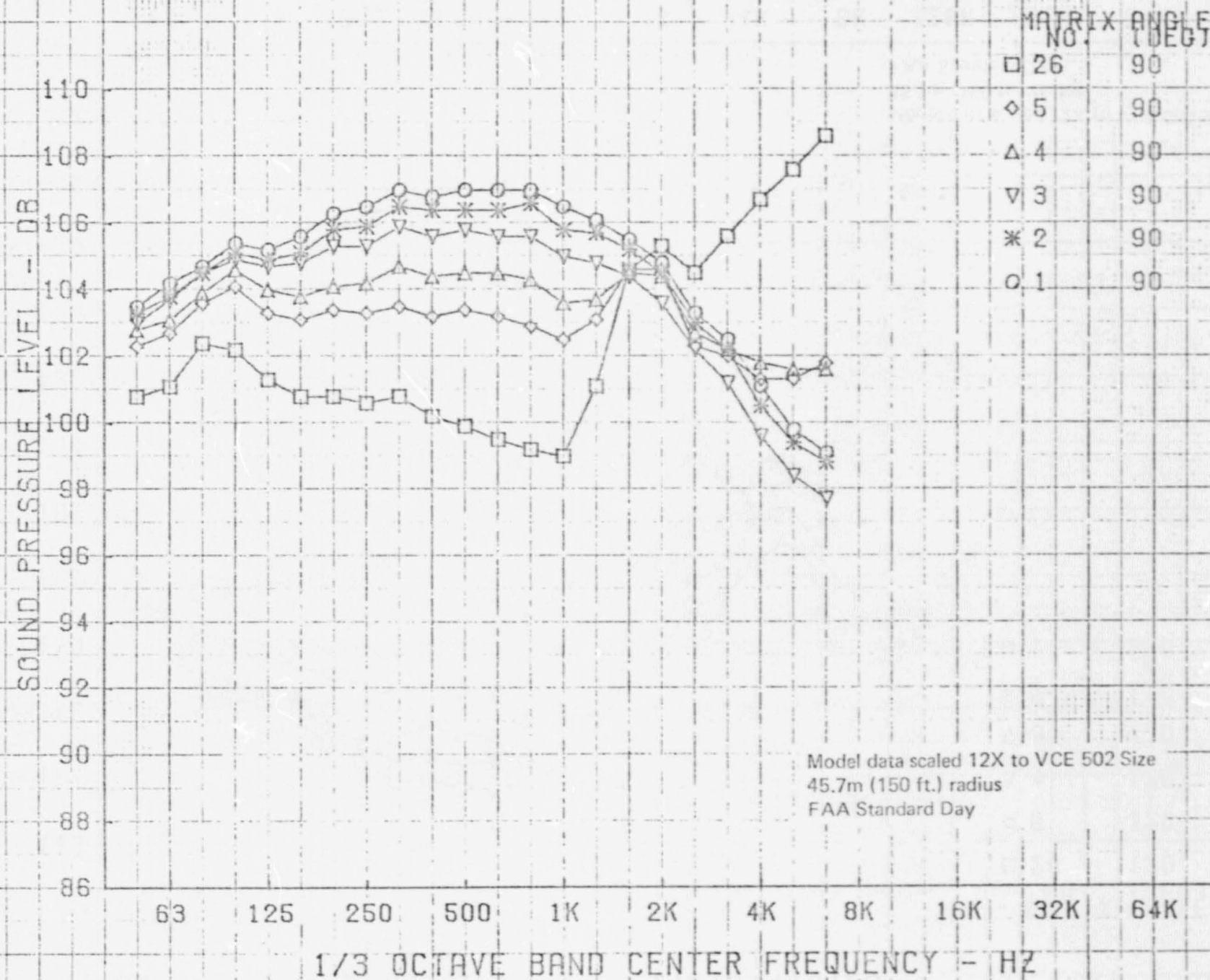
RADIUS = 90. FT
ANGLE IN DEGREES

CENTER FREQ. (KHZ)	10	20	30	40	50	60	70	80	90	95	100	105	110	115	120	130	135	140	150
.050	73.1	89.6	89.7	89.9	90.0	90.2	90.2	92.4	93.7	93.1	93.0	93.4	94.5	94.9	96.0	105.5	109.6	113.2	115.2
.063	74.0	90.8	90.9	91.0	91.1	91.3	91.5	93.6	94.8	94.5	94.6	95.1	96.1	96.8	98.1	107.3	111.2	114.6	116.3
.080	75.0	92.0	92.1	92.2	92.3	92.5	92.8	94.7	96.0	95.8	95.2	96.7	97.8	98.6	100.1	103.8	112.6	115.8	116.9
.100	75.9	93.1	93.2	93.3	93.5	93.7	94.0	95.7	97.0	97.0	97.5	98.2	99.2	100.2	101.8	110.0	113.5	116.3	116.8
.125	76.8	94.2	94.3	94.4	94.6	94.8	95.1	96.7	98.0	98.1	98.7	99.4	100.4	101.6	103.3	110.9	113.9	116.4	116.2
.160	77.8	95.3	95.4	95.5	95.7	95.9	96.4	97.6	99.0	99.2	99.9	100.6	101.7	102.9	104.7	111.5	114.0	115.9	115.3
.200	78.7	96.1	96.2	96.3	96.4	96.7	97.5	98.5	99.7	100.0	100.8	101.5	102.6	103.9	105.7	111.6	113.6	115.2	114.4
.250	79.6	96.6	96.7	96.8	97.0	97.3	98.5	99.1	100.3	100.6	101.4	102.2	103.3	104.8	106.5	111.2	113.0	114.3	113.4
.315	80.5	97.0	97.1	97.2	97.4	97.7	99.0	99.3	100.9	101.1	101.8	102.6	103.8	105.2	106.9	110.7	112.2	113.4	112.5
.400	81.5	97.0	97.1	97.2	97.4	97.7	98.8	98.7	101.0	101.1	101.8	102.6	103.9	105.3	106.9	109.9	111.4	112.5	111.6
.500	82.4	96.7	96.8	96.9	97.1	97.4	98.3	99.3	100.8	100.9	101.5	102.4	103.8	105.2	106.7	109.3	110.6	111.7	110.9
.630	83.4	96.2	96.3	96.4	96.6	96.9	97.7	98.7	100.5	100.5	101.1	102.1	103.6	105.0	106.4	108.7	110.0	111.0	110.2
.800	84.4	95.7	95.8	95.9	96.0	96.3	97.1	98.1	100.2	100.1	100.6	101.8	103.4	104.7	106.0	108.1	109.4	110.4	109.7
1.00	85.1	95.1	95.2	95.3	95.4	95.7	96.5	97.6	100.0	99.8	100.3	101.6	103.2	104.5	105.7	107.9	109.0	110.0	109.4
1.25	85.1	94.5	94.6	94.7	94.8	95.1	96.0	97.1	99.8	99.6	100.1	101.5	103.1	104.3	105.5	107.8	108.9	109.8	109.0
1.60	87.2	94.0	94.0	94.1	94.2	94.4	95.5	96.6	99.6	99.5	100.0	101.5	103.0	104.2	105.3	107.9	108.9	109.8	109.4
2.00	88.6	93.7	93.7	93.7	93.7	93.9	94.9	96.2	99.3	99.2	99.7	101.2	102.8	104.0	105.1	107.8	108.7	109.6	107.6
2.50	89.9	93.6	93.6	93.5	93.4	93.5	94.4	95.6	98.7	98.6	99.3	100.8	102.4	103.5	104.6	107.2	108.1	109.0	106.6
3.15	89.6	93.0	93.2	93.3	93.3	93.4	93.9	94.9	98.0	97.9	98.7	100.3	101.9	102.9	103.9	106.4	107.2	107.9	105.6
4.00	87.9	91.7	91.9	92.1	92.3	92.8	93.5	94.3	97.2	97.2	98.1	99.7	101.3	102.2	103.0	105.4	105.8	106.2	104.5
5.00	87.0	90.8	90.9	91.0	91.2	91.7	92.7	93.7	96.1	96.4	97.6	99.2	100.7	101.4	102.2	104.4	105.0	105.5	103.4
6.30	85.6	90.1	90.1	90.2	90.3	90.6	91.7	92.7	94.6	95.4	97.0	98.5	99.9	100.5	101.2	103.4	104.0	104.6	102.2
8.00	85.7	89.0	89.1	89.2	89.3	89.6	90.7	91.5	93.1	94.2	96.1	97.7	99.0	99.5	100.0	102.1	102.7	103.2	100.8
10.0	84.2	87.6	87.7	87.8	88.0	88.5	89.7	90.4	91.6	92.9	95.0	96.6	97.9	98.4	98.7	100.8	101.2	101.7	99.3
OVERALL	98.7	108.0	108.1	108.2	108.3	108.6	109.5	110.5	112.4	112.5	113.2	114.3	115.6	116.8	118.2	122.3	124.3	126.2	126.1
PNDB	112.4	119.1	119.2	119.3	119.4	119.6	120.4	121.4	123.9	123.9	124.7	126.1	127.5	128.6	129.7	132.8	134.0	135.1	133.7
PNLT	112.4	119.1	119.2	119.3	119.4	119.6	120.4	121.4	123.9	123.9	124.7	126.1	127.5	128.6	129.7	132.8	134.0	135.1	133.7

7.1

AERODYNAMIC
TABULATED DATA

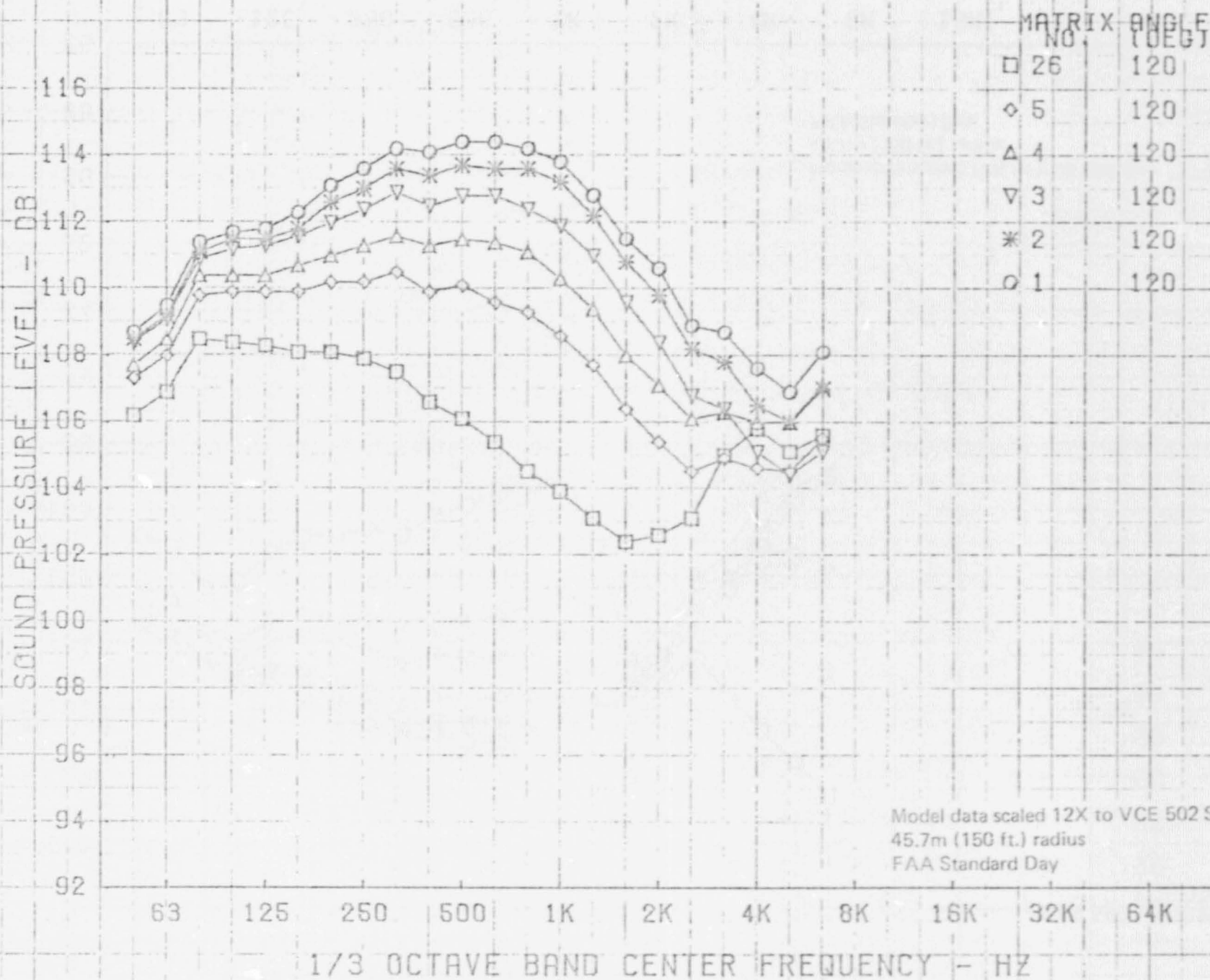
VCE TESTBED MODEL TEST PTS 1,2,3,4,5,26



E-1

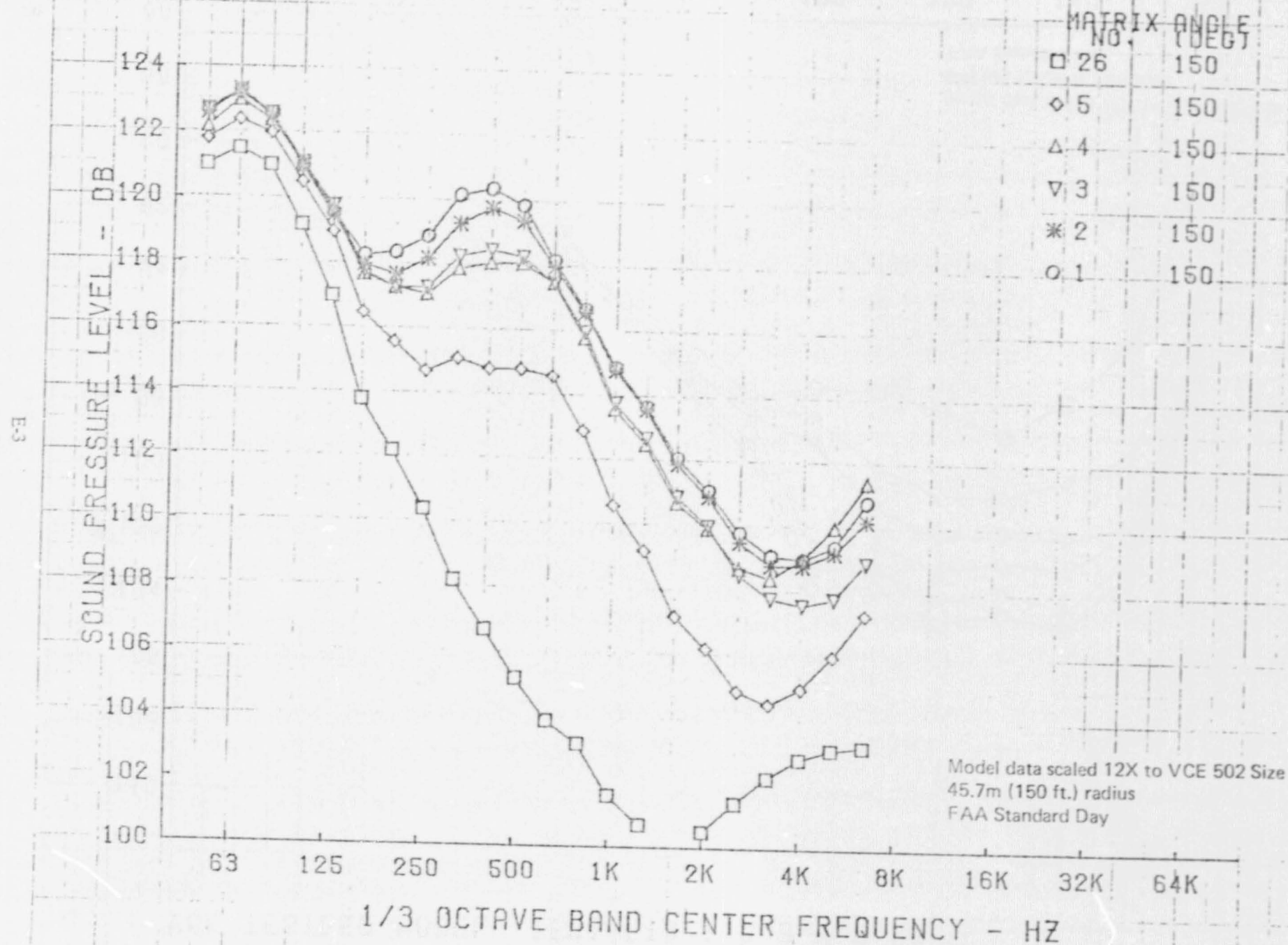
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VCE TESTBED MODEL TEST PTS 1,2,3,4,5,26

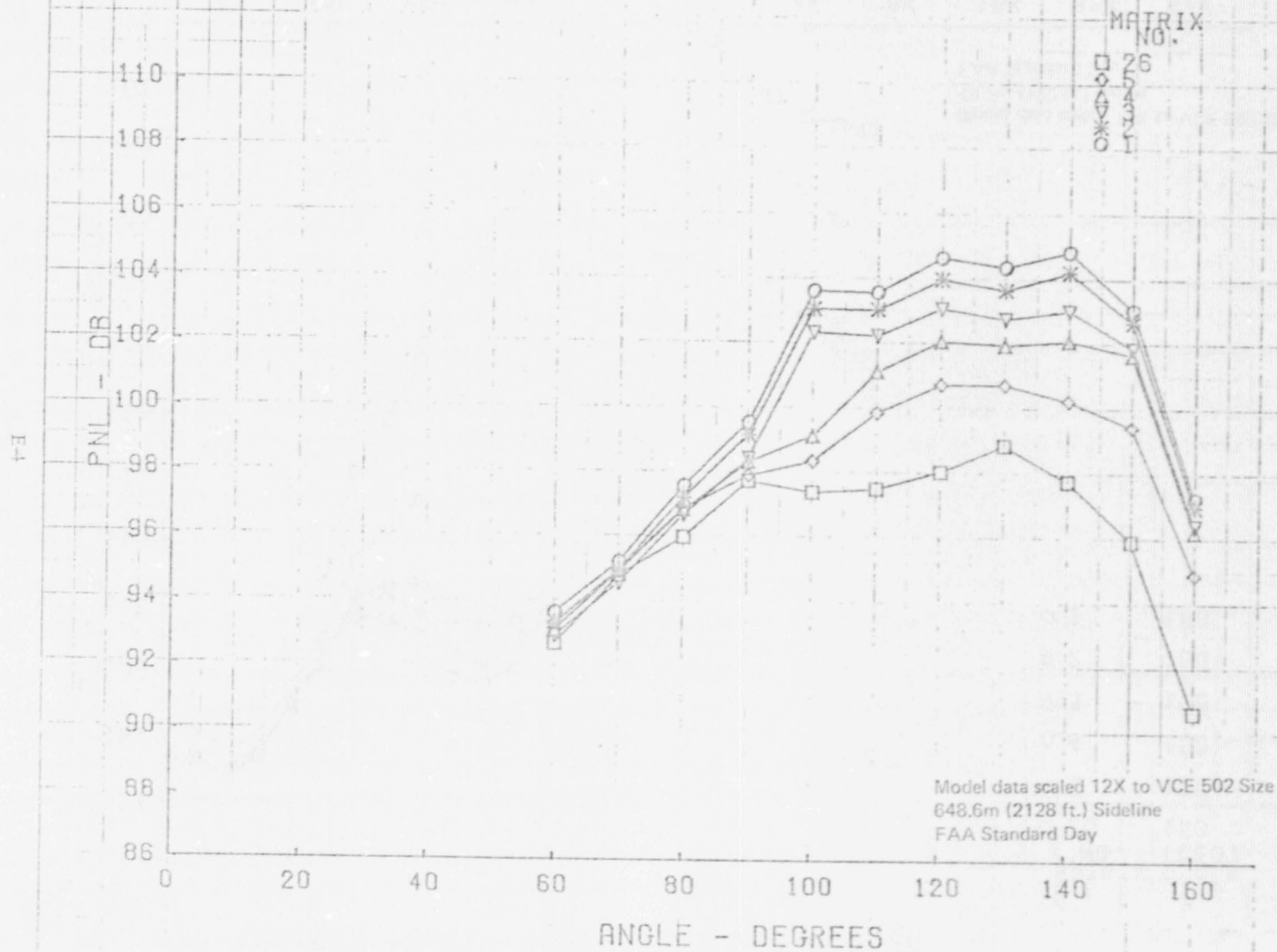


E-2

VCE TESTBED MODEL TEST PTS 1,2,3,4,5,26

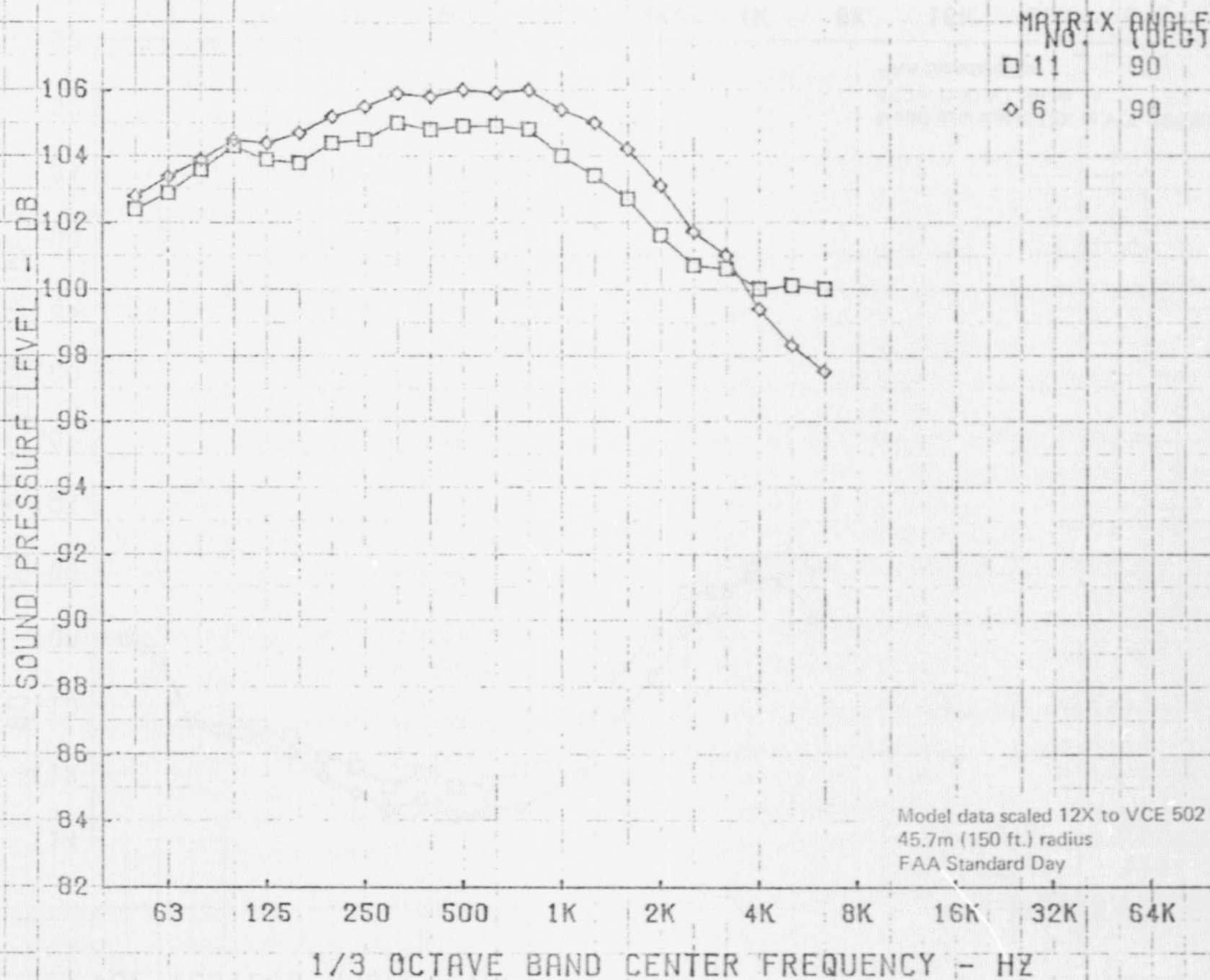


VCE TESTBED MODEL TEST PTS 1,2,3,4,5,26



VCE TESTBED MODEL TEST PTS 6.11

E-5



VCE TESTBED MODEL TEST PTS 6,11

MATRIX ANGLE
NO. (DEG)

□ 11

120

◇ 6

120

SOUND PRESSURE LEVEL - DB

114
112
110
108
106
104
102
100
98
96
94
92
90

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

VCE TESTBED MODEL TEST PTS 6,11

MATRIX NO.	ANGLE (DEG)
11	150
6	150

SOUND PRESSURE LEVEL - DB

124

122

120

118

116

114

112

110

108

106

104

102

100

63

125

250

500

1K

2K

4K

8K

16K

32K

64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

E-7

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VCE TESTBED MODEL TEST PTS 6.11

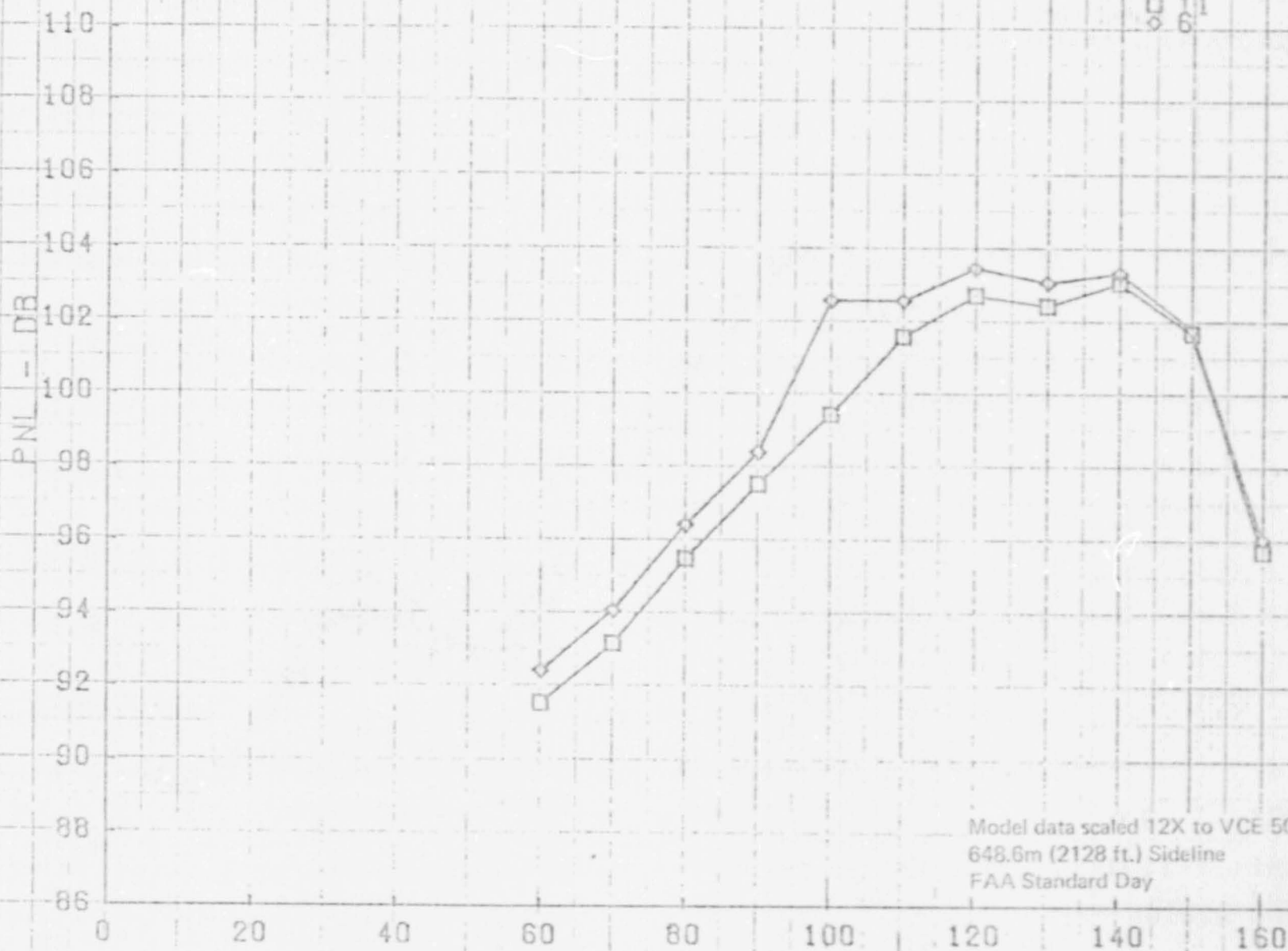
MATRIX
NO.

11
6

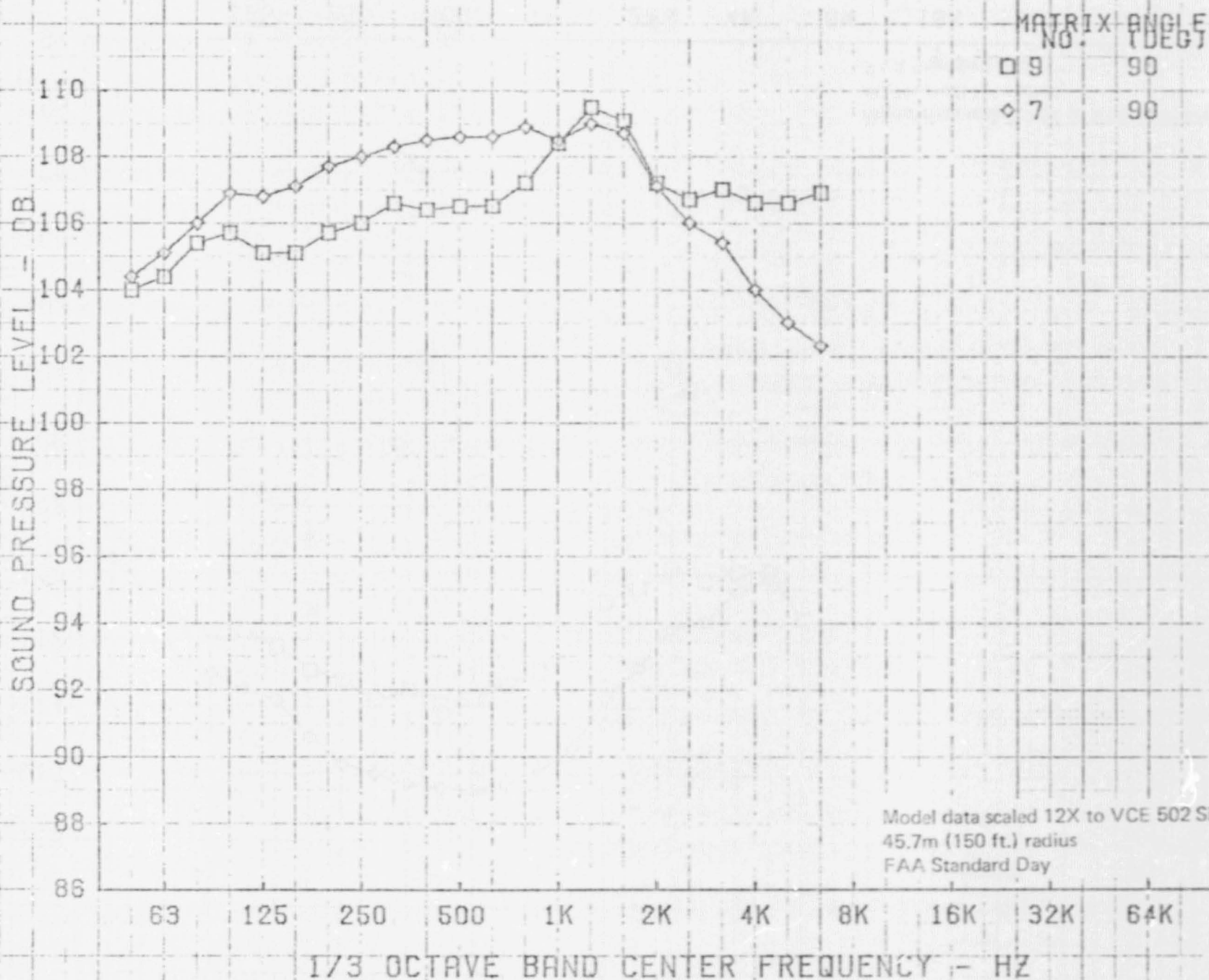
PNL - DB

Model data scaled 12X to VCE 502 Size
648.6m (2128 ft.) Sideline
FAA Standard Day

ANGLE - DEGREES



VCE TESTBED MODEL TEST PTS 7.9



VCE TESTBED MODEL TEST PTS 7.9

MATRIX ANGLE
NO. (DEG)
□ 9 120
◇ 7 120

SOUND PRESSURE LEVEL - DB

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

173 OCTAVE BAND CENTER FREQUENCY - HZ

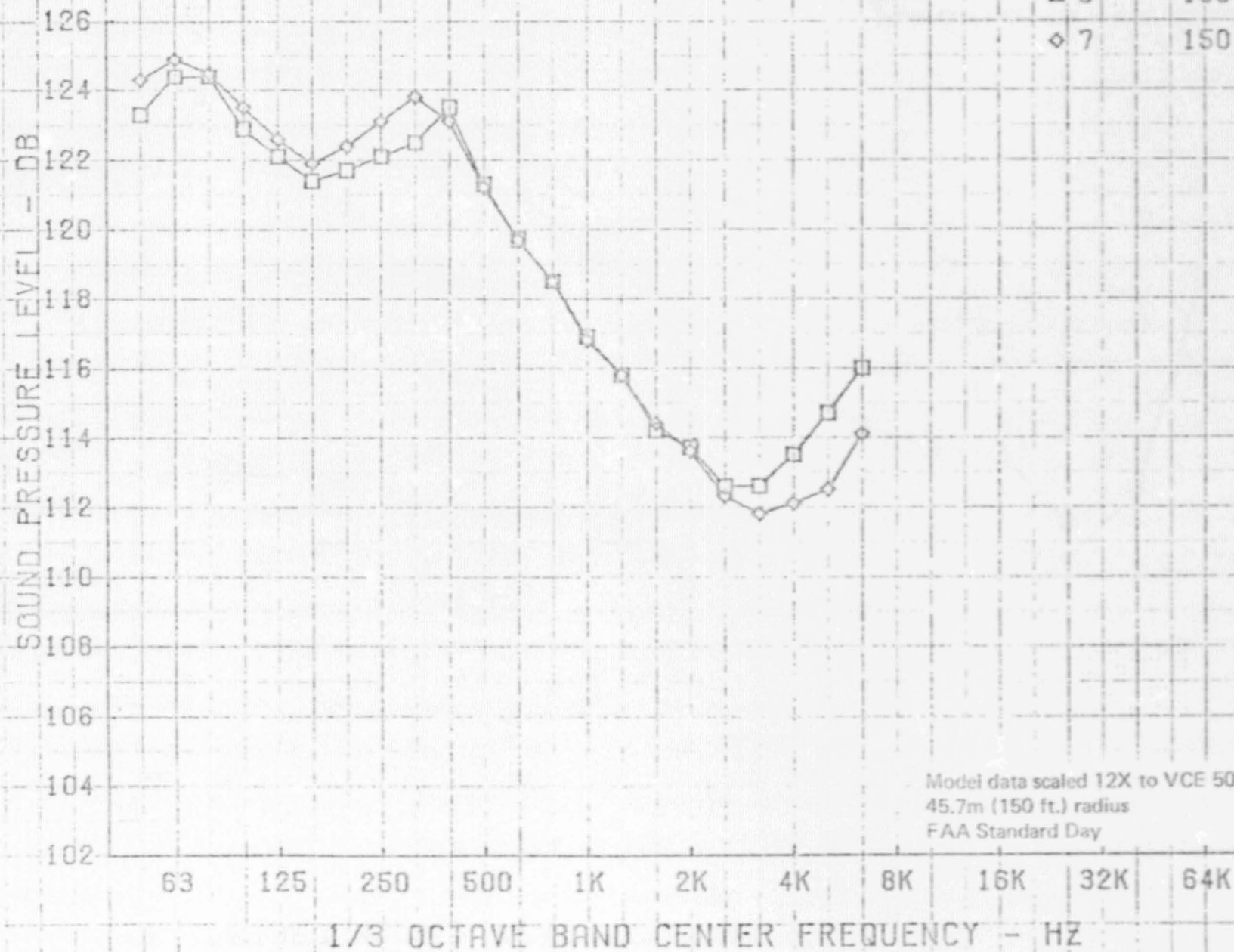
Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

E-10

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VCE TESTBED MODEL TEST PTS 7,9

MATRIX NO.	ANGLE (DEG)
□ 9	150
◇ 7	150



Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

VCE TESTBED MODEL TEST PTS 7.9

MATRIX
NO.

89

114
112
110
108
106
104
102
100
98
96
94
92
90

PNL - DB

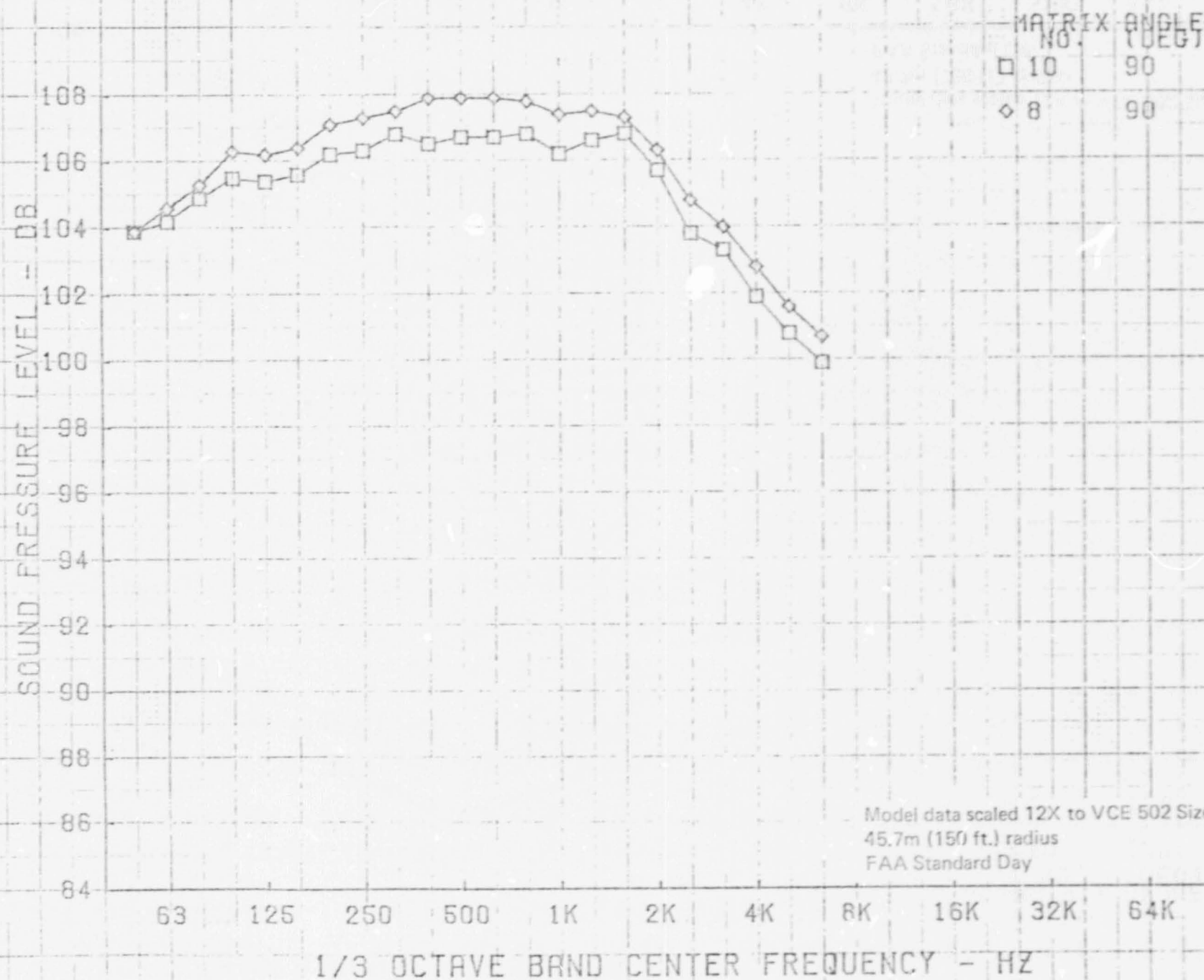
Model data scaled 12X to VCE 502 Size
648.6m (2128 ft.) Sideline
FAA Standard Day

0 20 40 60 80 100 120 140 160

ANGLE - DEGREES

PNL - DB

VCE TESTBED MODEL TEST PTS 8,10



VCE TESTBED MODEL TEST PTS 8,10

MATRIX NO. 10
ANGLE (DEG) 120

SOUND PRESSURE LEVEL - DB

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

E-14

ORIGINAL PAGE IS
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116
114
112
110
108
106
104
102
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98
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92

116
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108
106
104
102
100
98
96
94
92

116
114
112
110
108
106
104
102
100
98
96
94
92

116
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112
110
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106
104
102
100
98
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94
92

VCE TESTBED MODEL TEST PTS 8,10

MATRIX NO. 10
ANGLE (DEG) 150

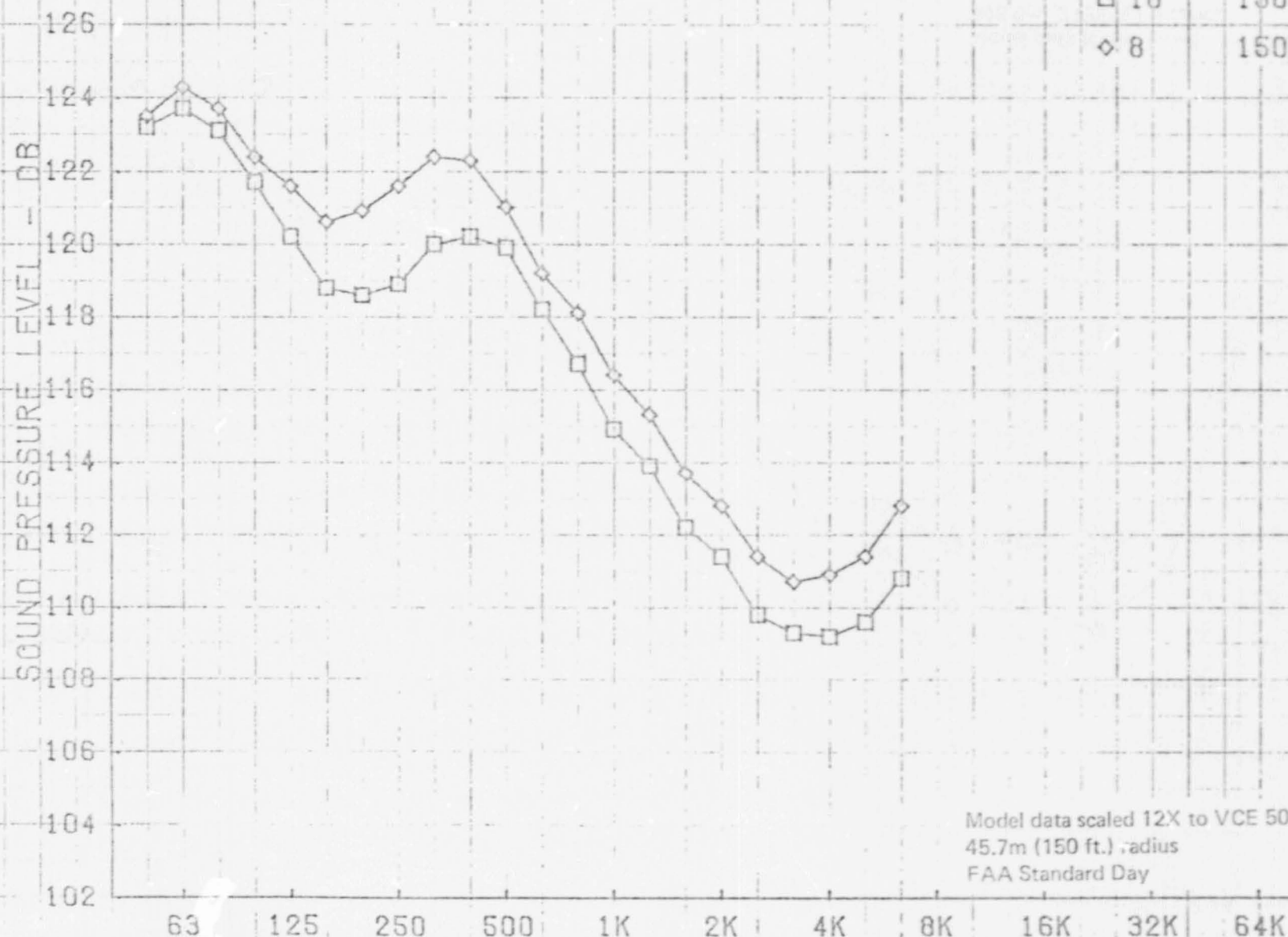
MATRIX NO. 8
ANGLE (DEG) 150

SOUND PRESSURE LEVEL - DB

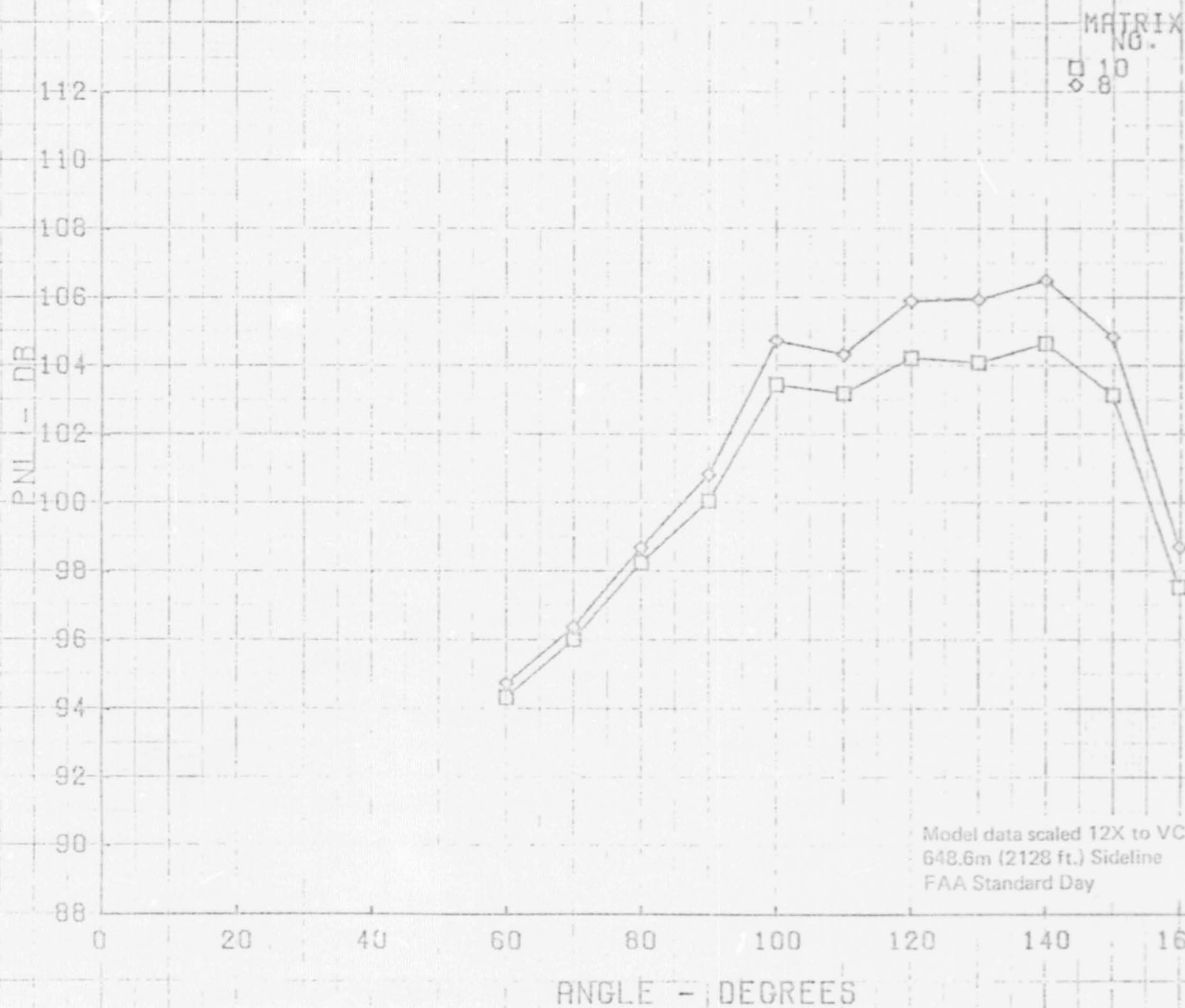
63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 8,10

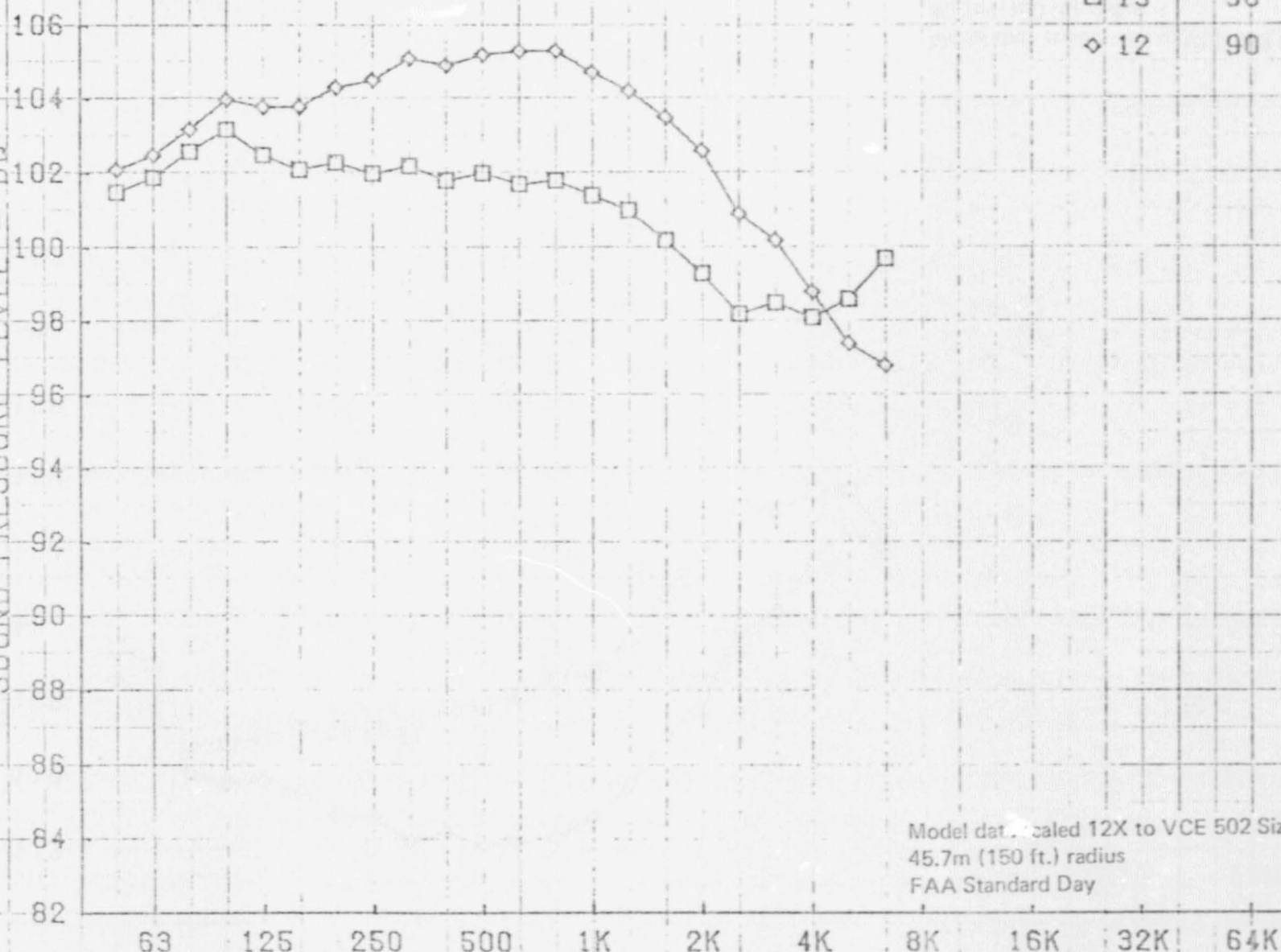


VCE TESTBED MODEL TEST PTS 12,13

MATRIX ANGLE
NO. (DEG)

□ 13 90
◇ 12 90

SOUND PRESSURE LEVEL - DB

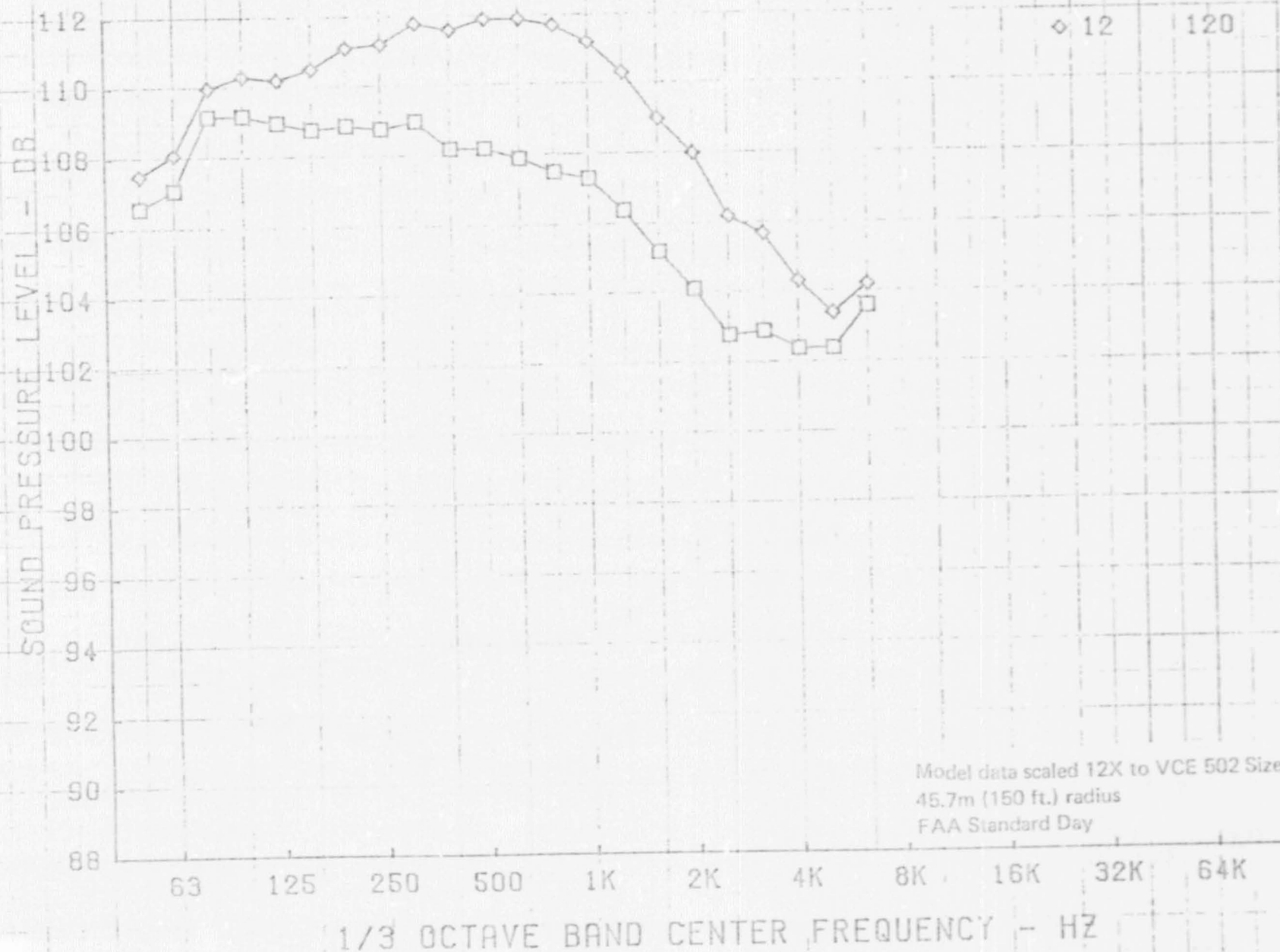


Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

VCE TESTBED MODEL TEST PTS 12,13

MATRIX NO.	ANGLE (DEG)
13	120
12	120



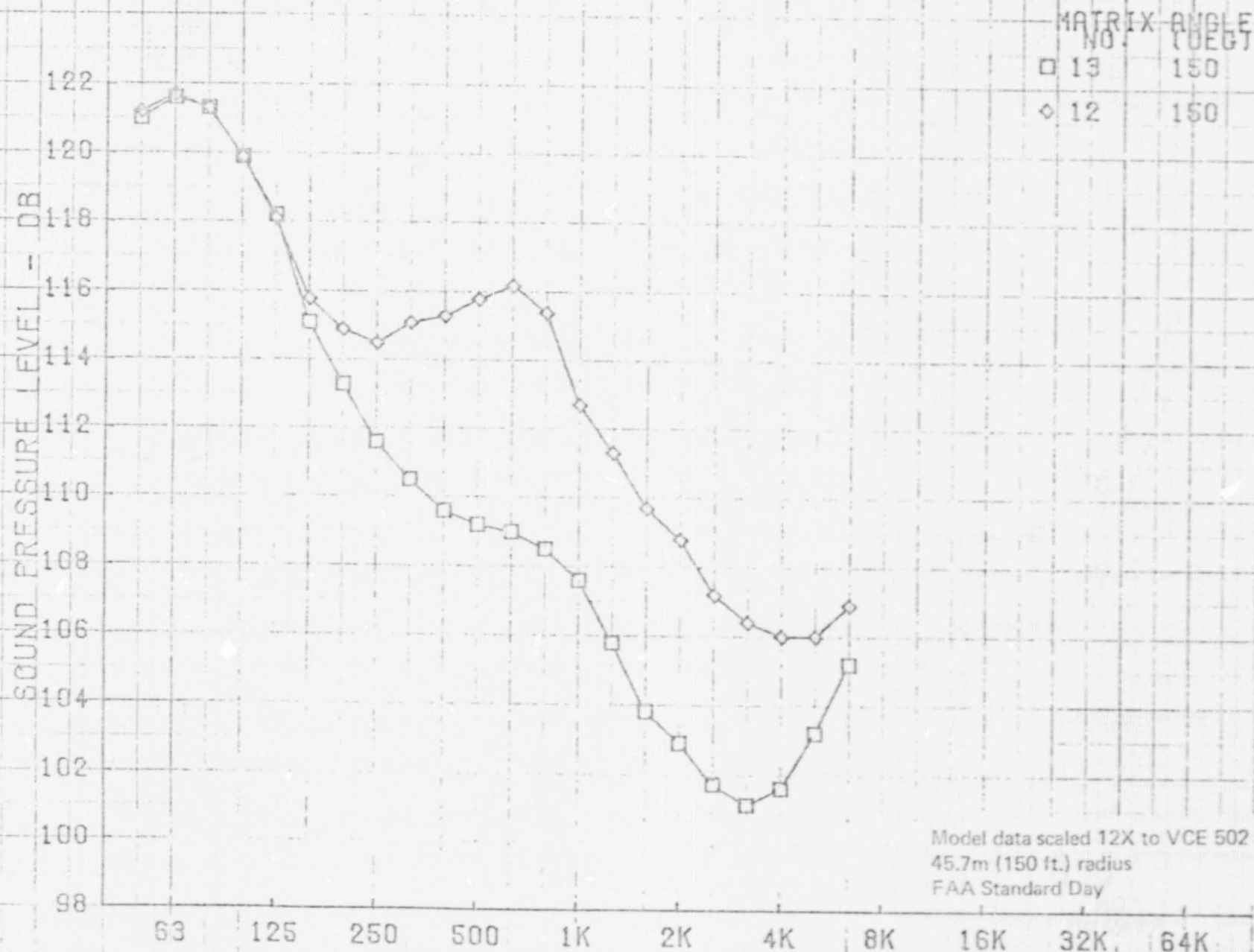
VCE TESTBED MODEL TEST PTS 12,13

MATRIX NO.	ANGLE (DEG)
□ 13	150
◇ 12	150

SOUND PRESSURE LEVEL - DB

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 12,13

MATRIX NO.

13
12

E-20

PNI - DB

108
106
104
102
100
98
96
94
92
90
88
86
84

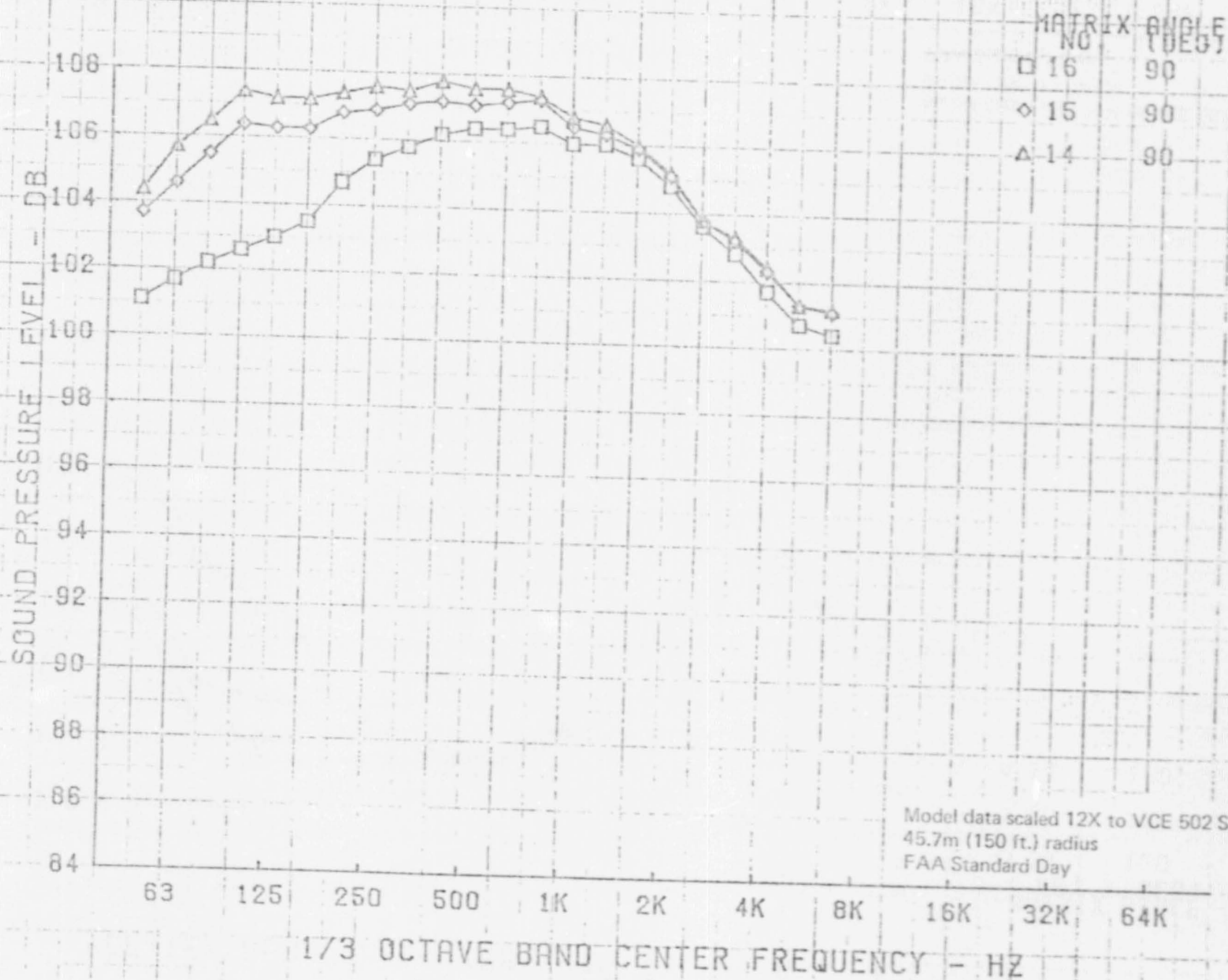
0 20 40 60 80 100 120 140 160

ANGLE - DEGREES

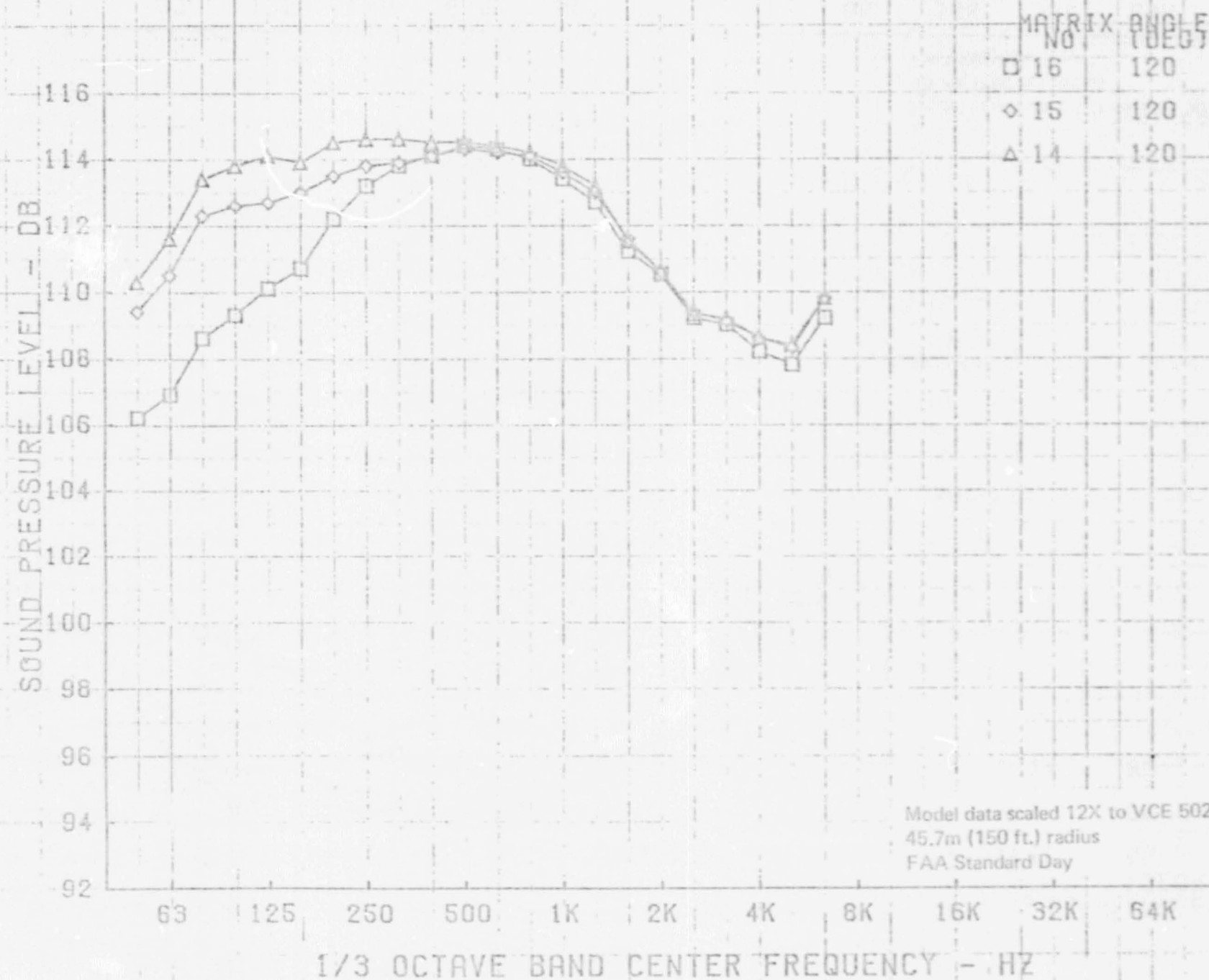
Model data scaled 12X to VCE 502 Size
648.6m (2128 ft.) Sideline
FAA Standard Day



VCE TESTBED MODEL TEST PTS 14,15,16



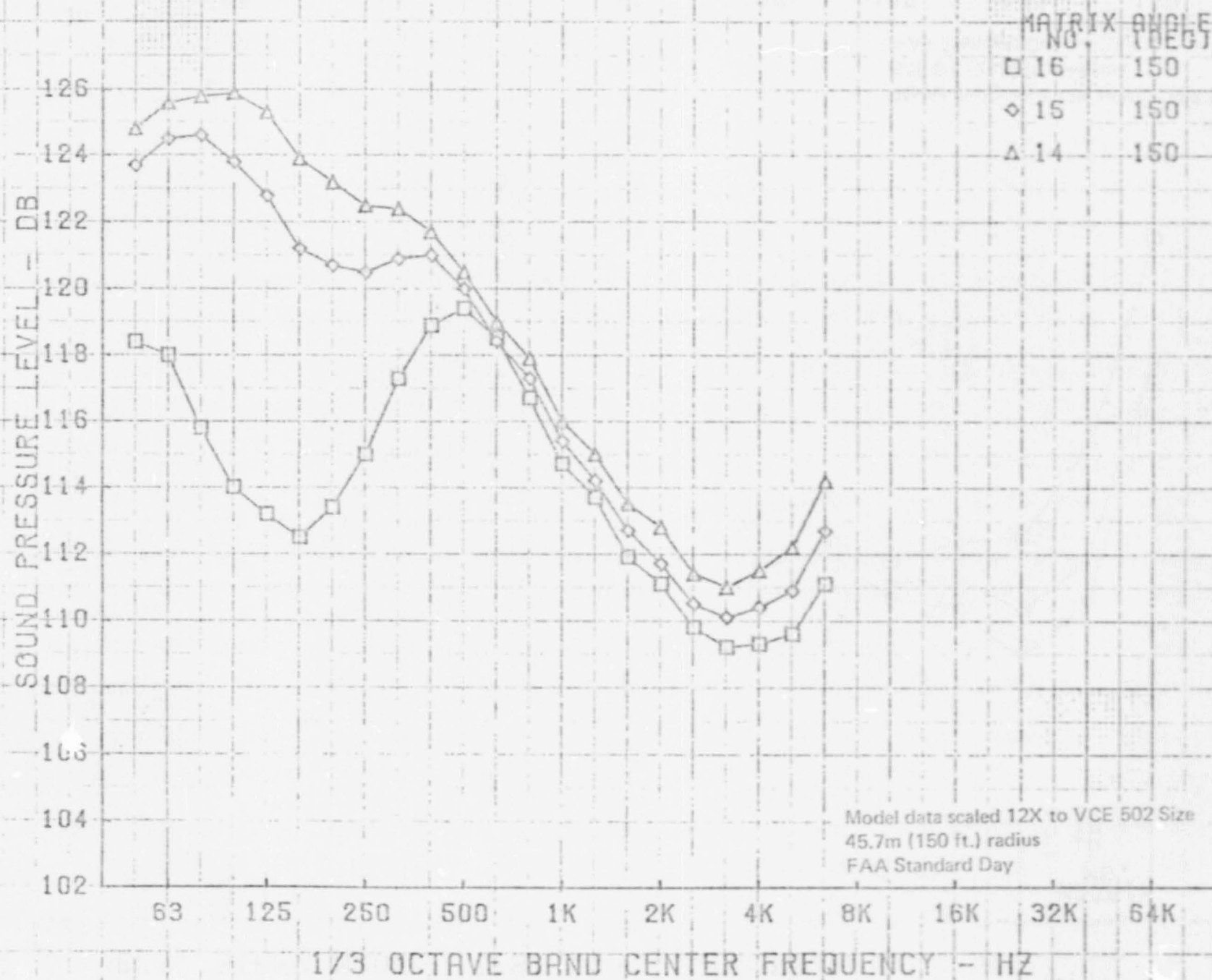
VCE TESTBED MODEL TEST PTS 14,15,16



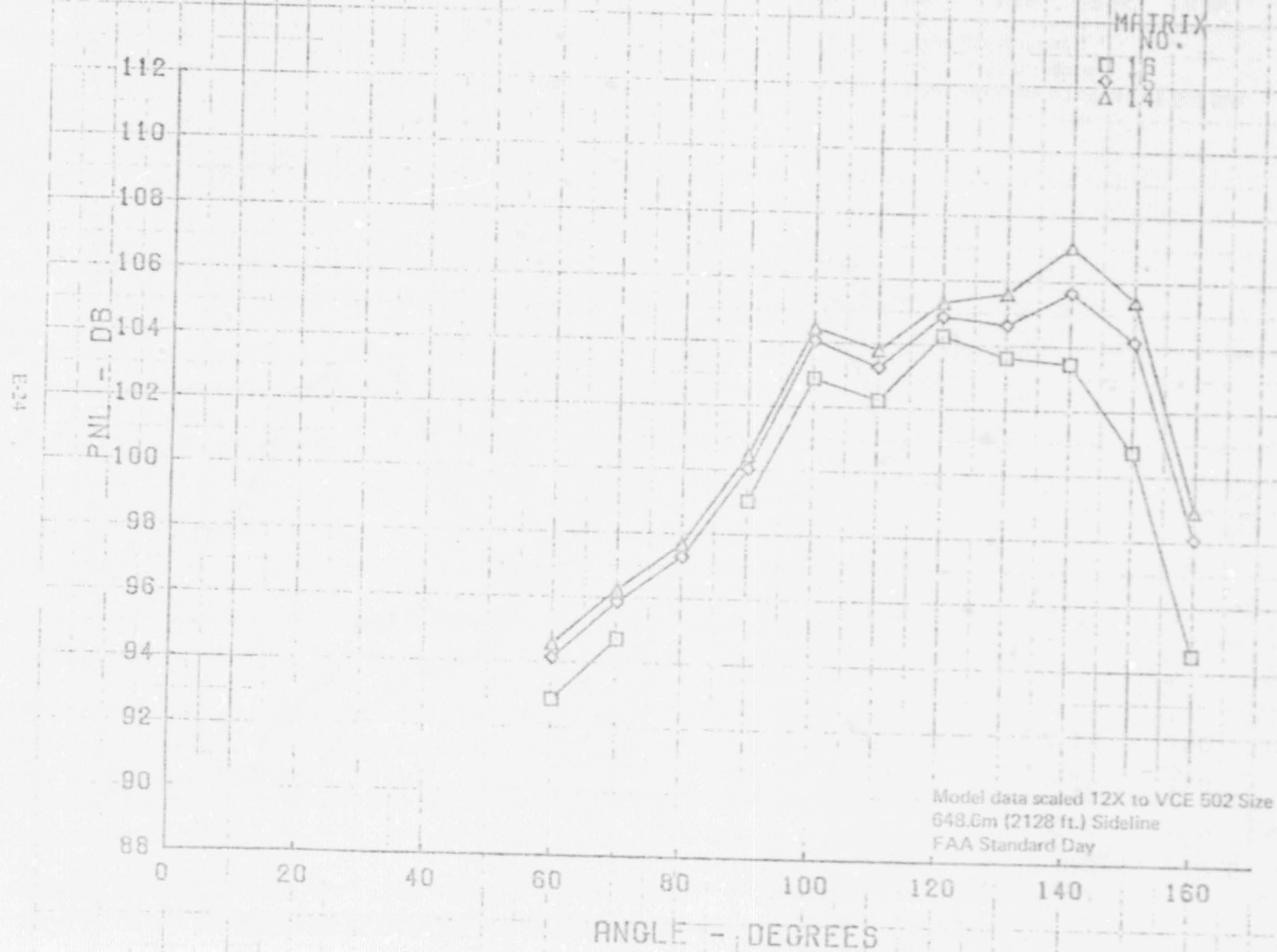
E-22

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VCE TESTBED MODEL TEST PTS 14,15,16



VCE TESTBED MODEL TEST PTS 14,15,16



VCE TESTBED MODEL TEST PTS 17,29

MATRIX NO.	ANGLE (DEG)
17	90
29	90

SOUND PRESSURE LEVEL - DB

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

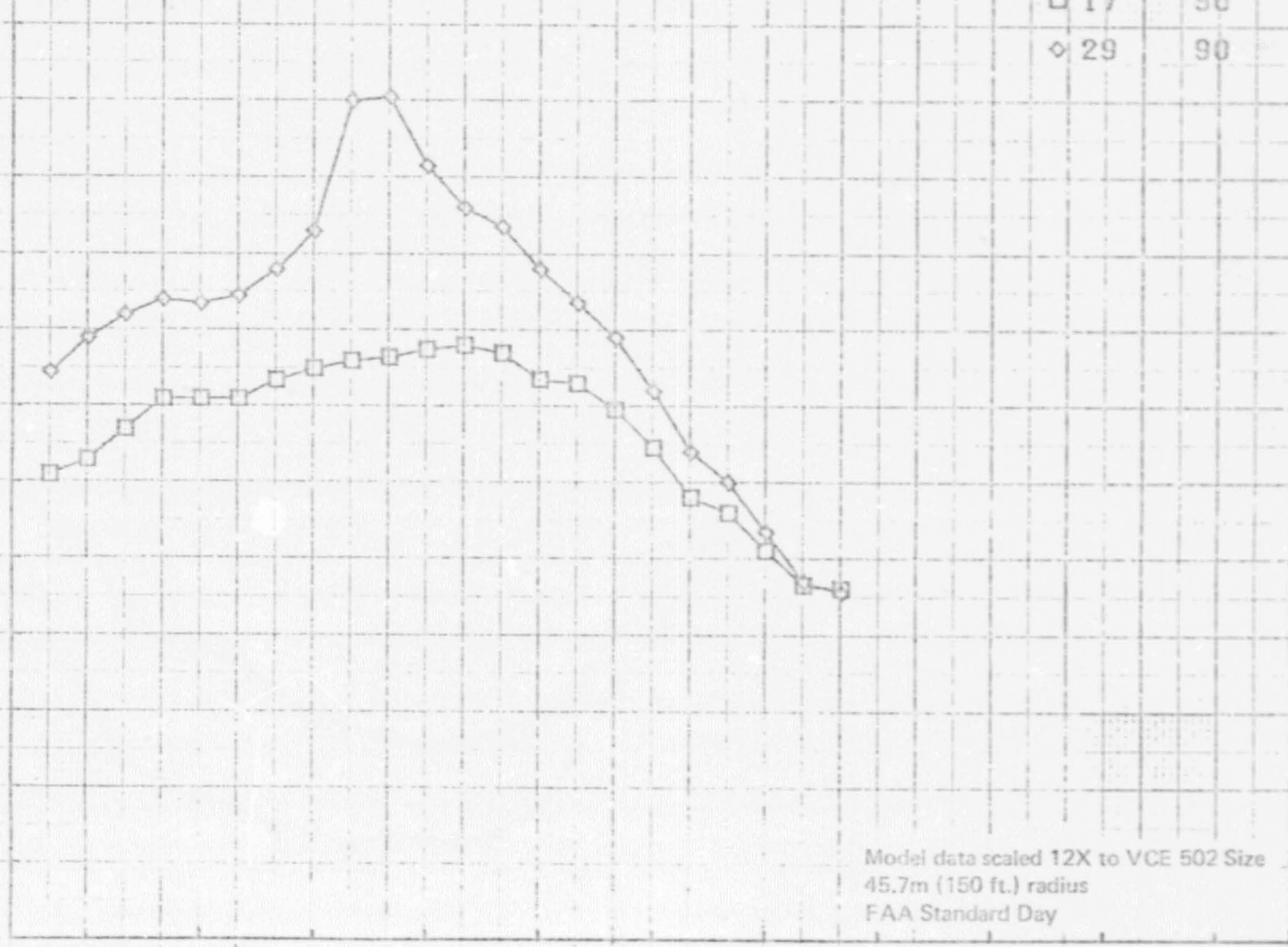
1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

E-25

SOUND PRESSURE LEVEL - DB

116
114
112
110
108
106
104
102
100
98
96
94
92



VCE TESTBED MODEL TEST PTS 17,29

MATRIX ANGLE
NO. (DEG)

□ 17 120

◇ 29 120

SOUND PRESSURE LEVEL - DB

118
116
114
112
110
108
106
104
102
100
98
96
94

63

125

250

500

1K

2K

4K

8K

16K

32K

64K

173 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

E-26

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VCE TESTBED MODEL TEST PTS 17,29

MATRIX ANGLE
NO. (DEG)

□ 17 150

◇ 29 150

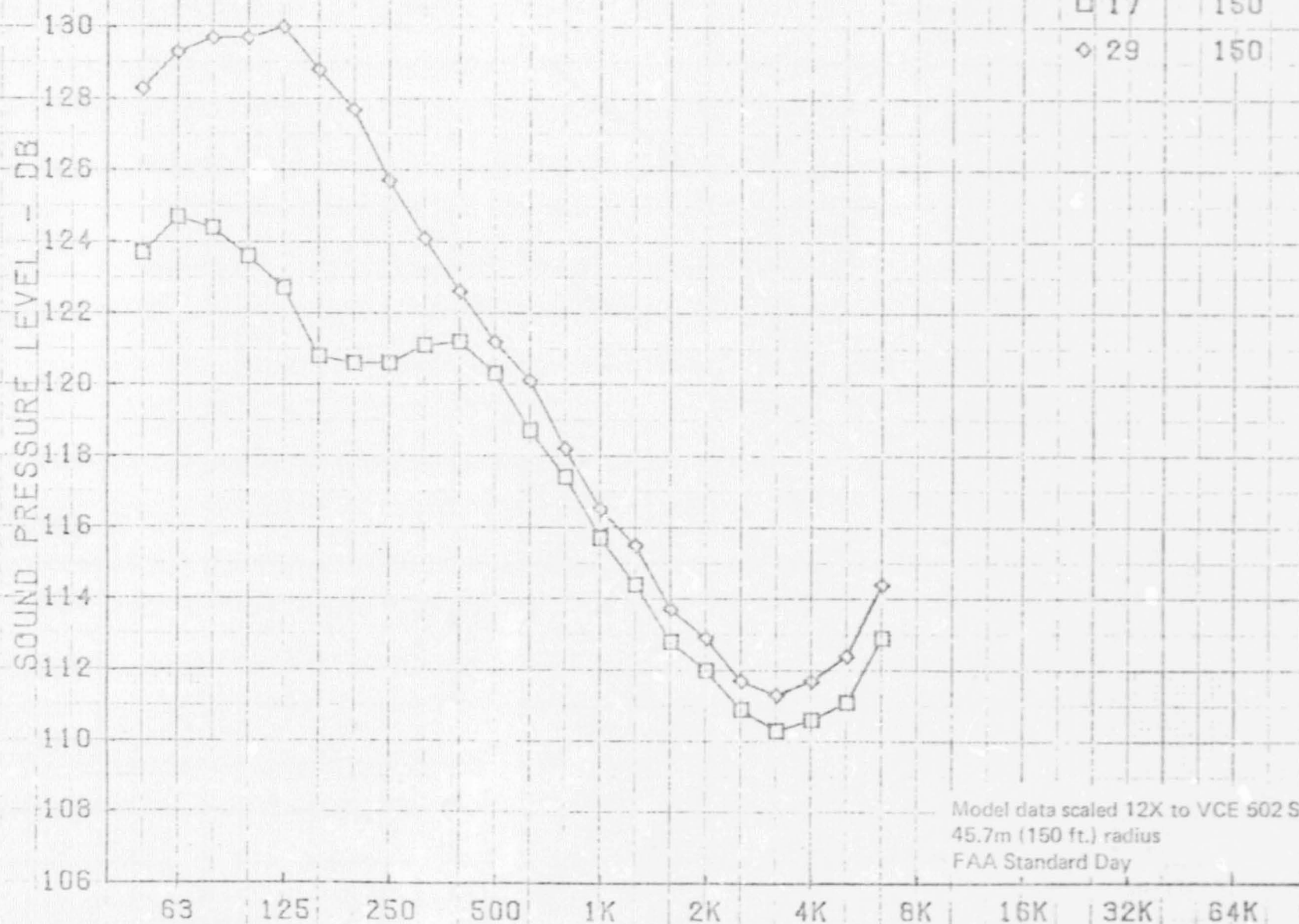
SOUND PRESSURE LEVEL - DB

130
128
126
124
122
120
118
116
114
112
110
108
106

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

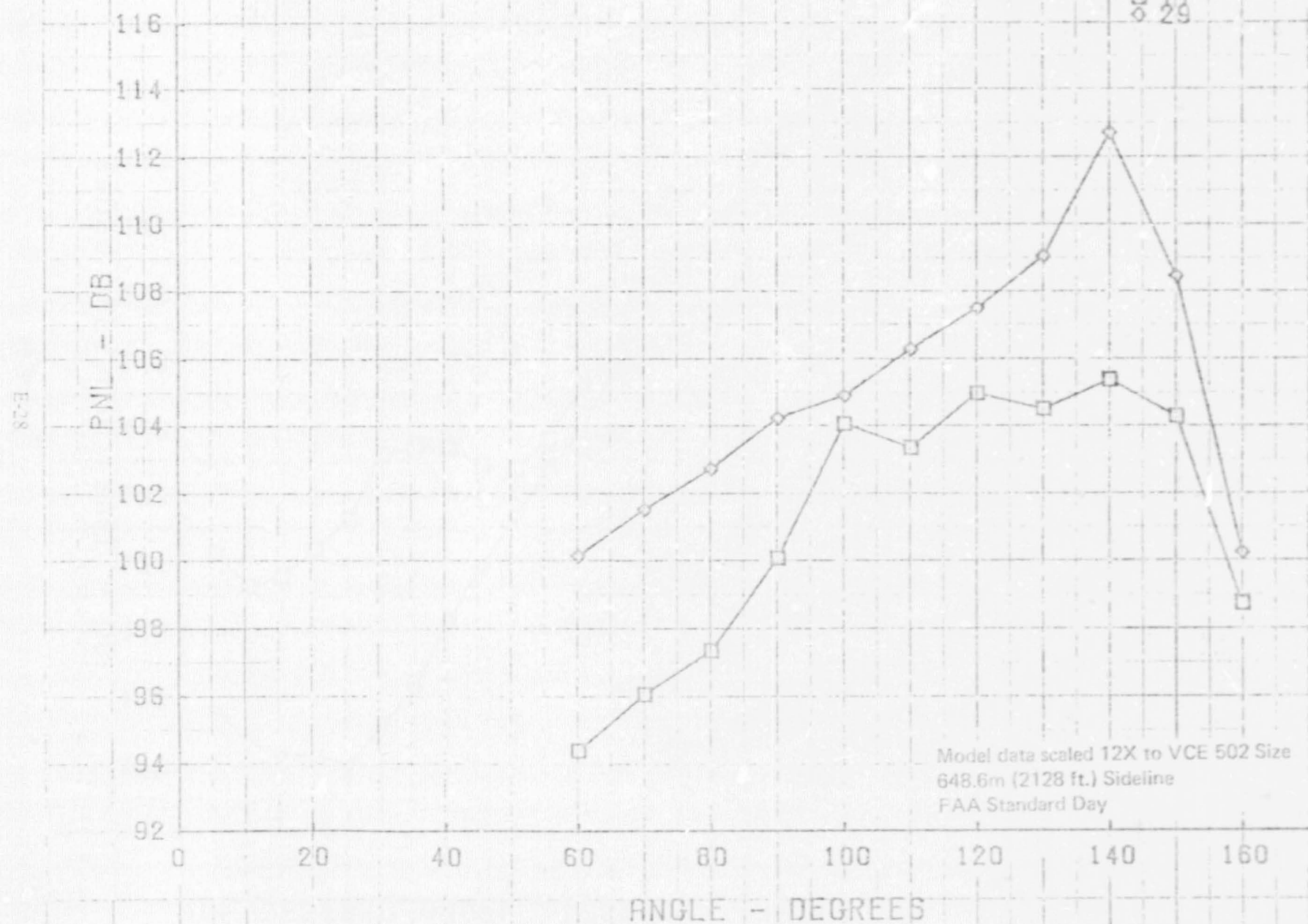
Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 17,29

MATRIX
NO.

17
8 29

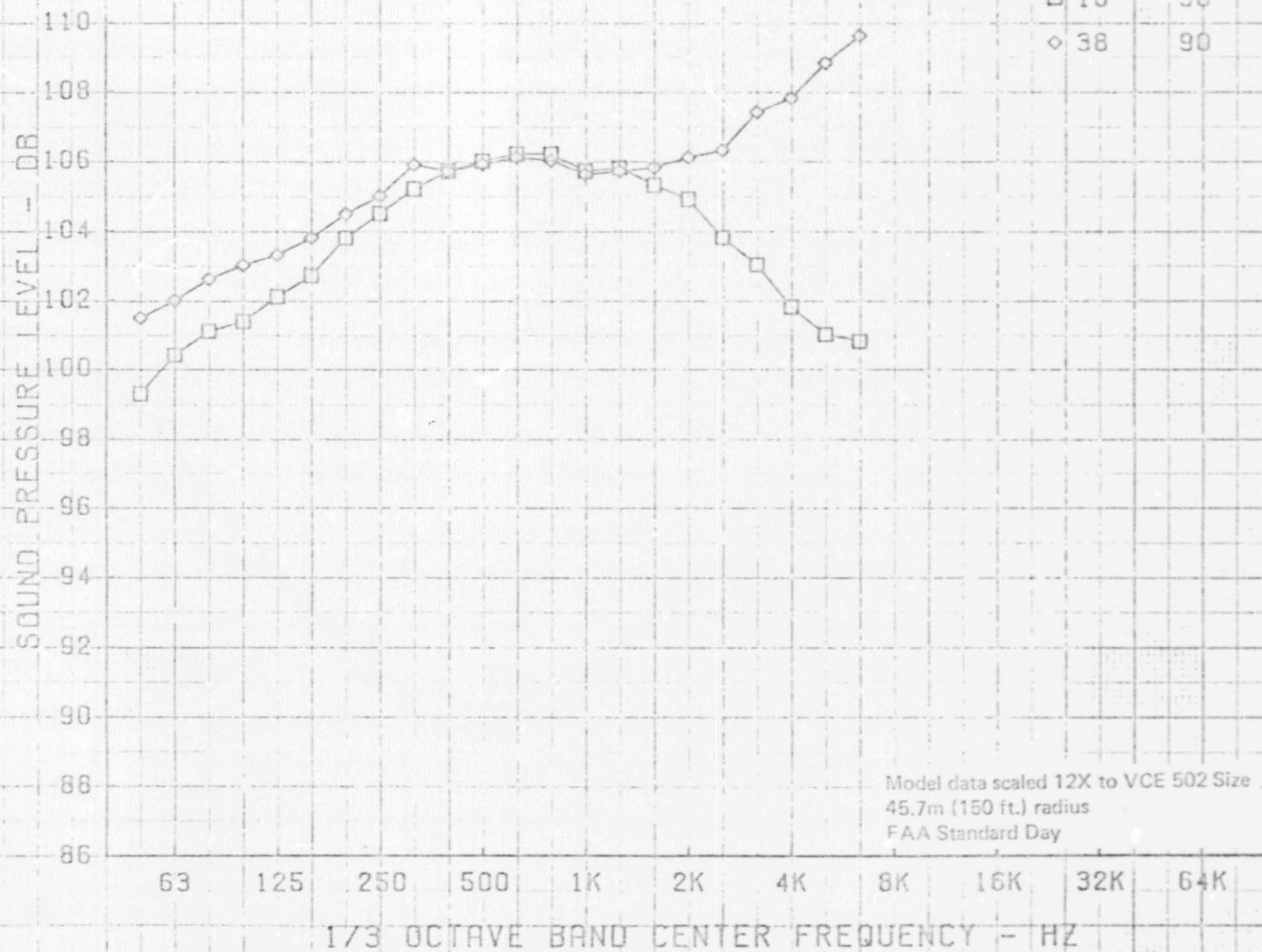


VCE TESTBED MODEL	TEST PTS	18.38
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MATRIX	ANGLE NO. (DEG)
1	0
2	45
3	90
4	135
5	180
6	225
7	270
8	315

□ 18	90
------	----

◇	38		90
---	----	--	----



Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

173 OCTAVE BAND CENTER FREQUENCY - HZ

VCE TESTBED MODEL TEST PTS 18,38

MATRIX ANGLE
NO. (DEG)
□ 18 120
◇ 38 120

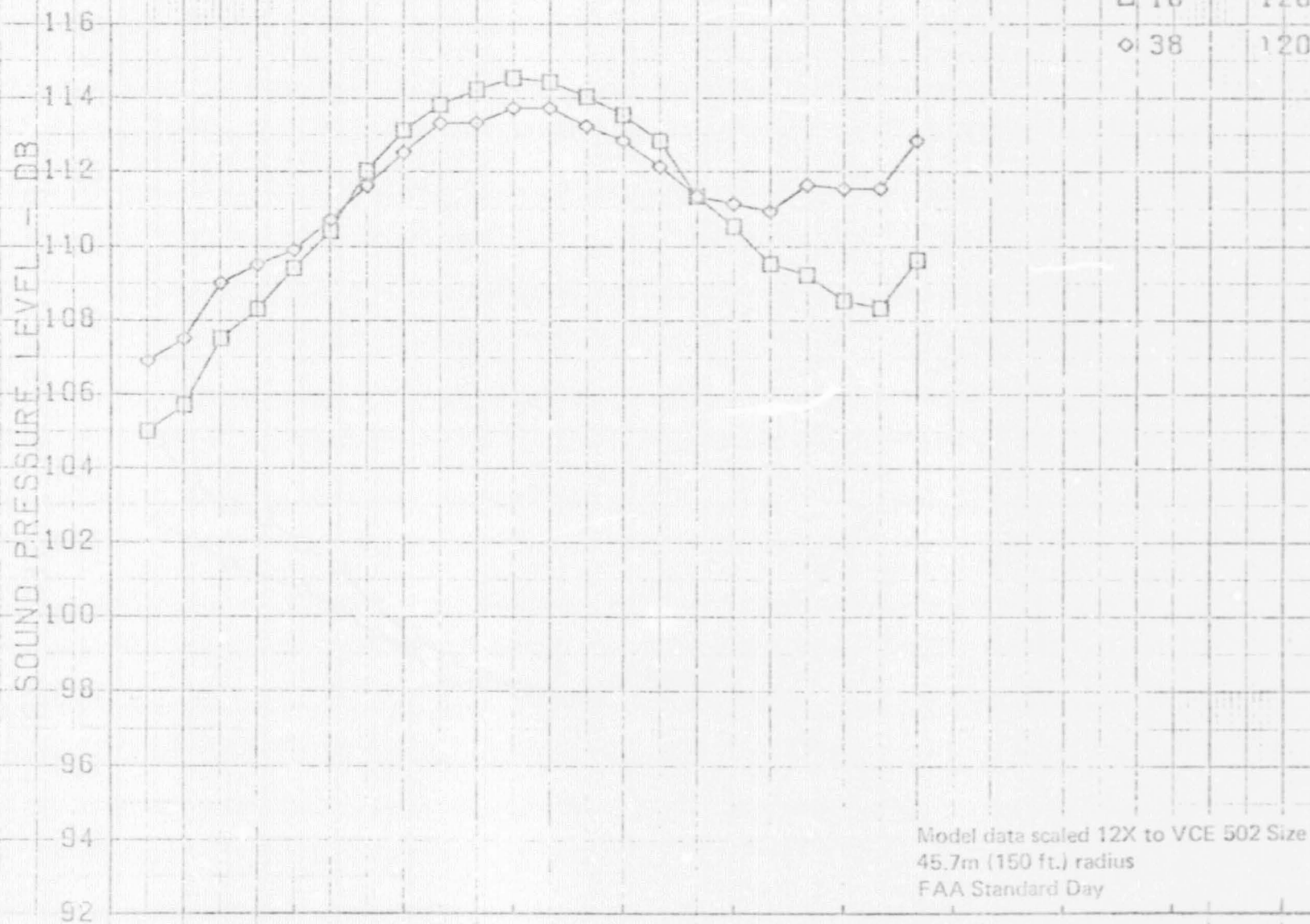
SOUND PRESSURE LEVEL - DB

E30

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 18,38

MATRIX NO.	ANGLE (DEG)
□ 18	150
◇ 38	150

SOUND PRESSURE LEVEL - DB

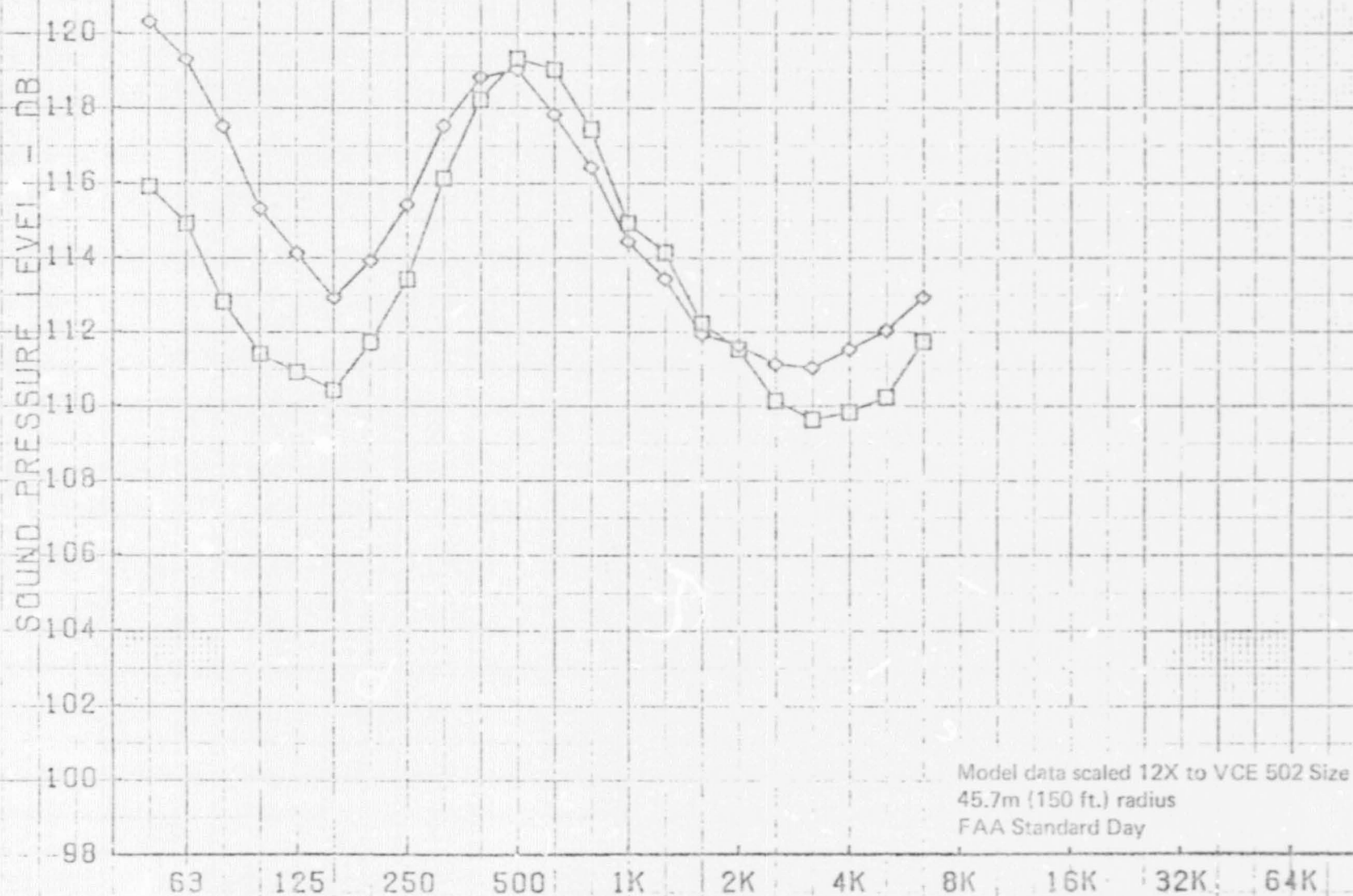
122
120
118
116
114
112
110
108
106
104
102
100
98

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

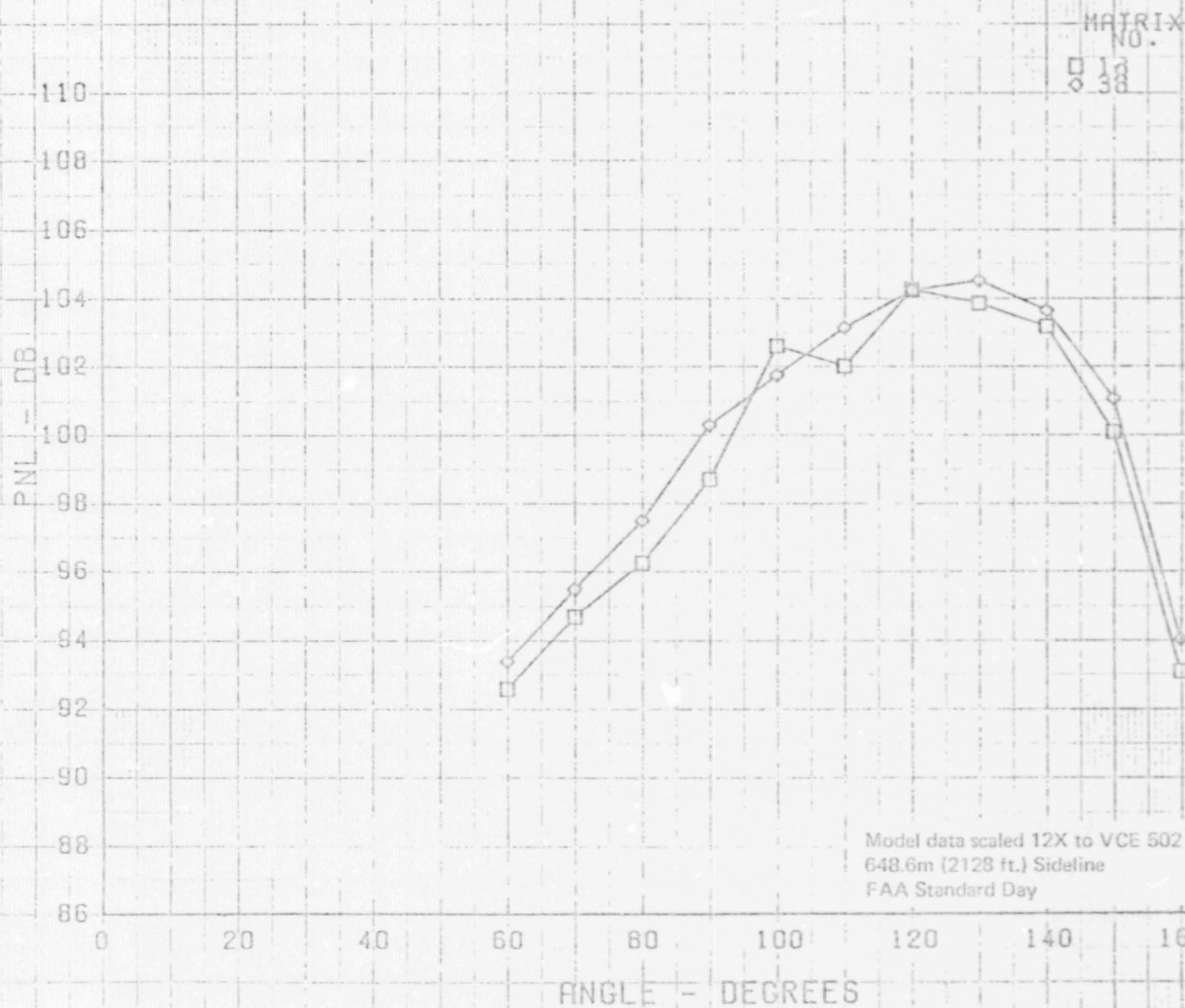
1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

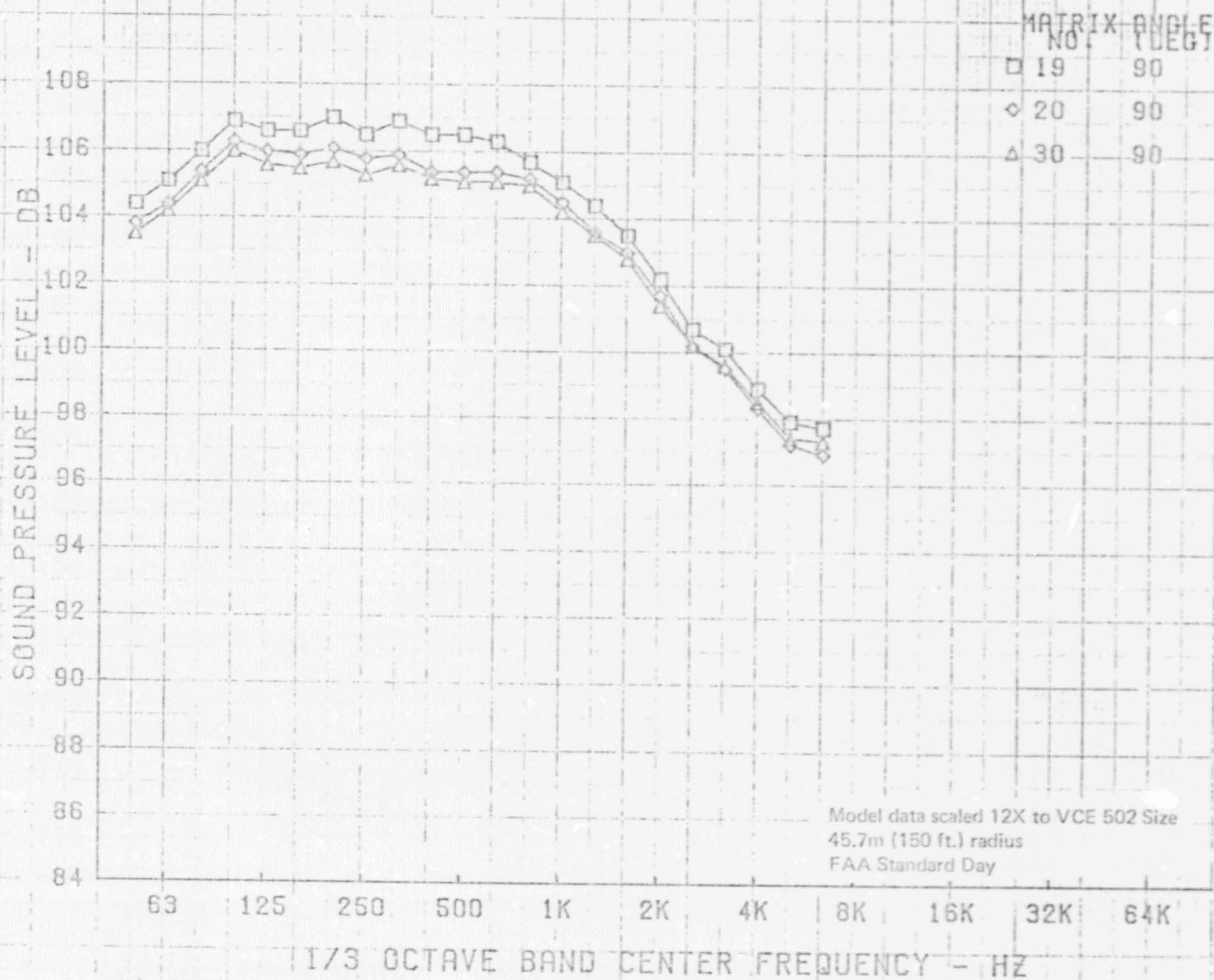
E-31



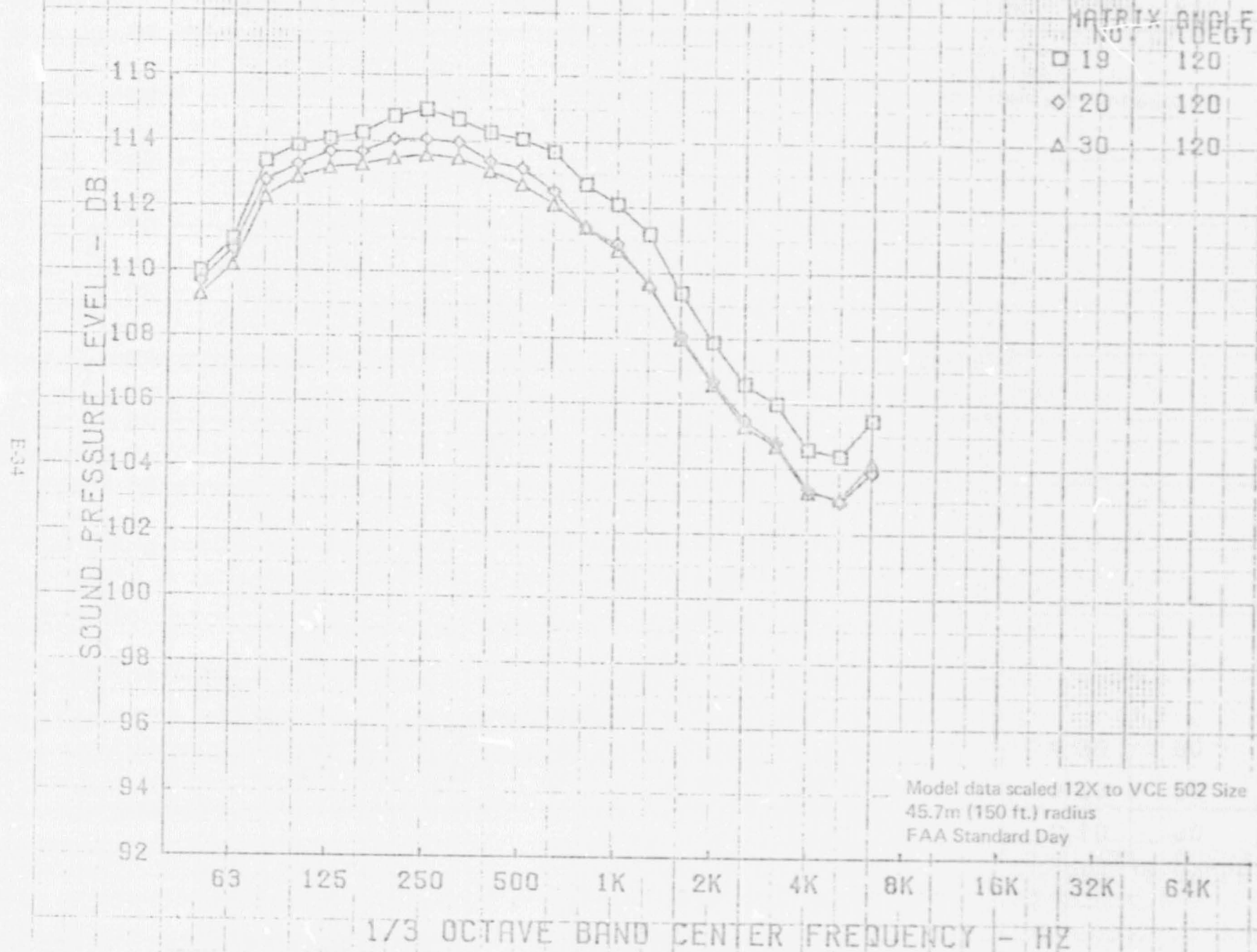
VCE TESTBED MODEL TEST PTS 18,38



VCE TESTBED MODEL TEST PTS 19,20,30



VCE TESTBED MODEL TEST PTS 19, 20, 30



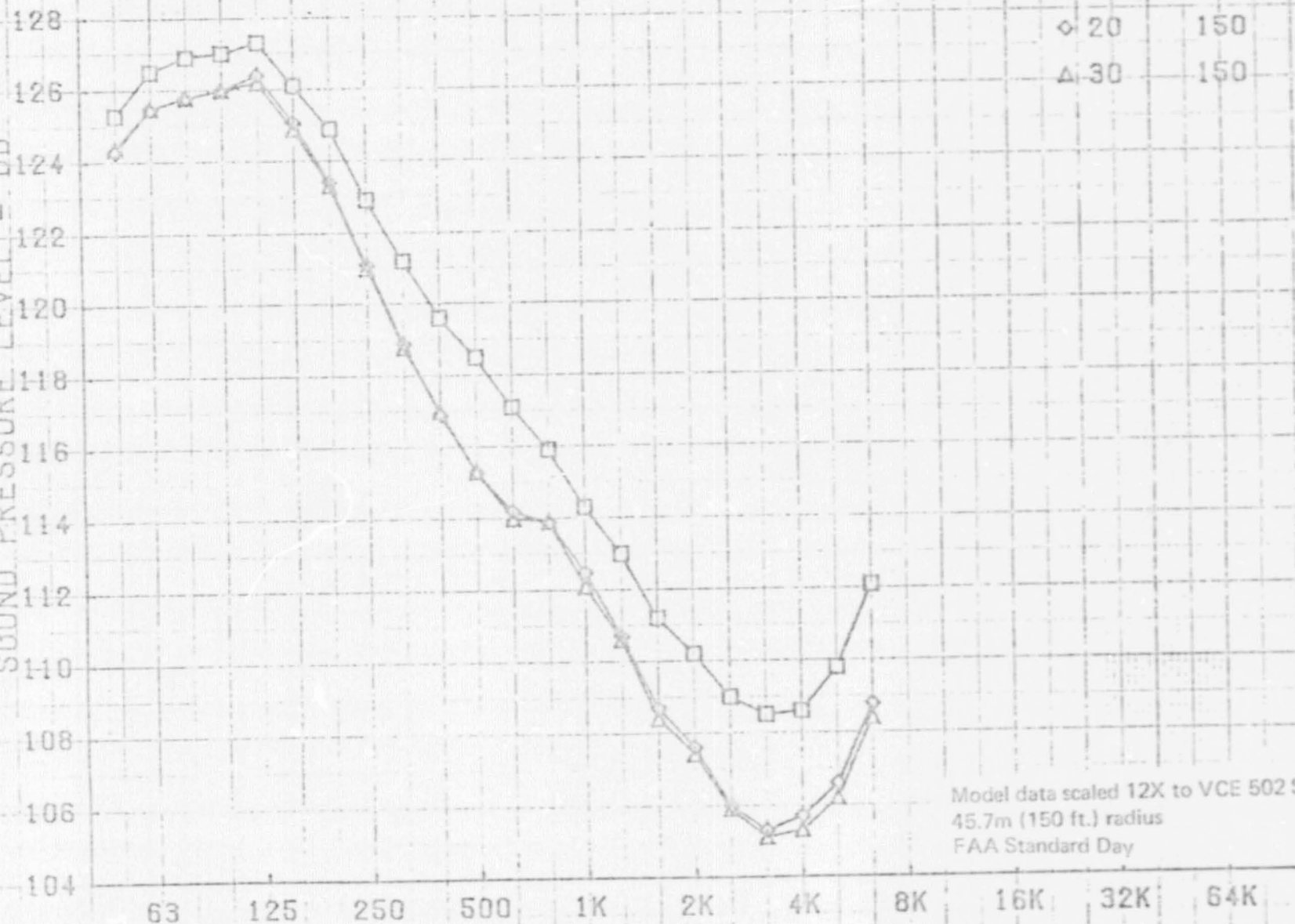
VCE TESTBED MODEL TEST PTS 19,20,30

MATRIX NO.	ANGLE (DEG)
□ 19	150
◇ 20	150
△ 30	150

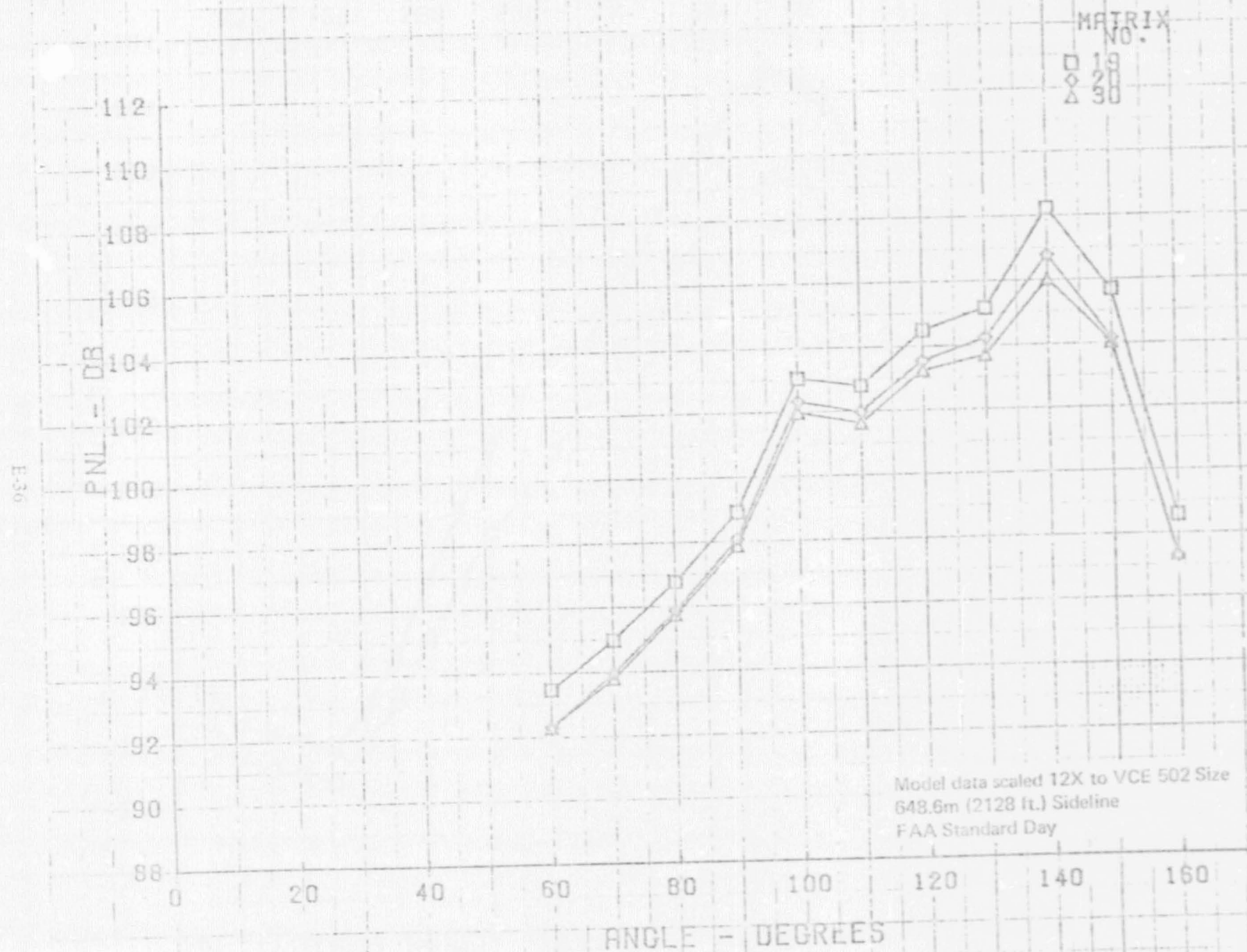
SOUND PRESSURE LEVEL - DB

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 19,20,30



VCE TESTBED MODEL TEST PTS 21,22,23,24,25

MATRIX NO.	ANGLE (DEG)
□ 21	90
◇ 22	90
△ 23	90
▽ 24	90
* 25	90

SOUND PRESSURE LEVEL - DB

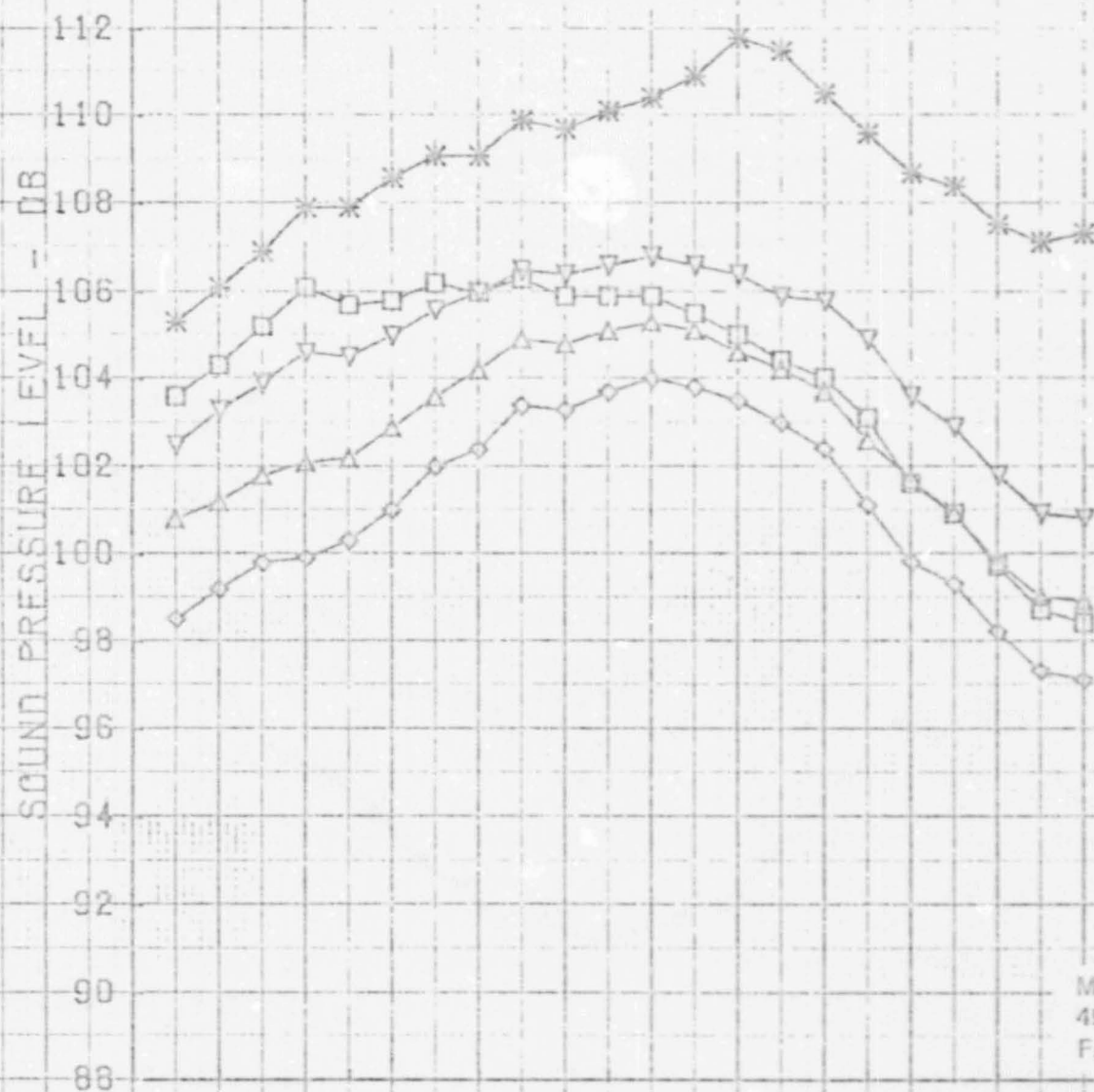
112
110
108
106
104
102
100
98
96
94
92
90
88

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

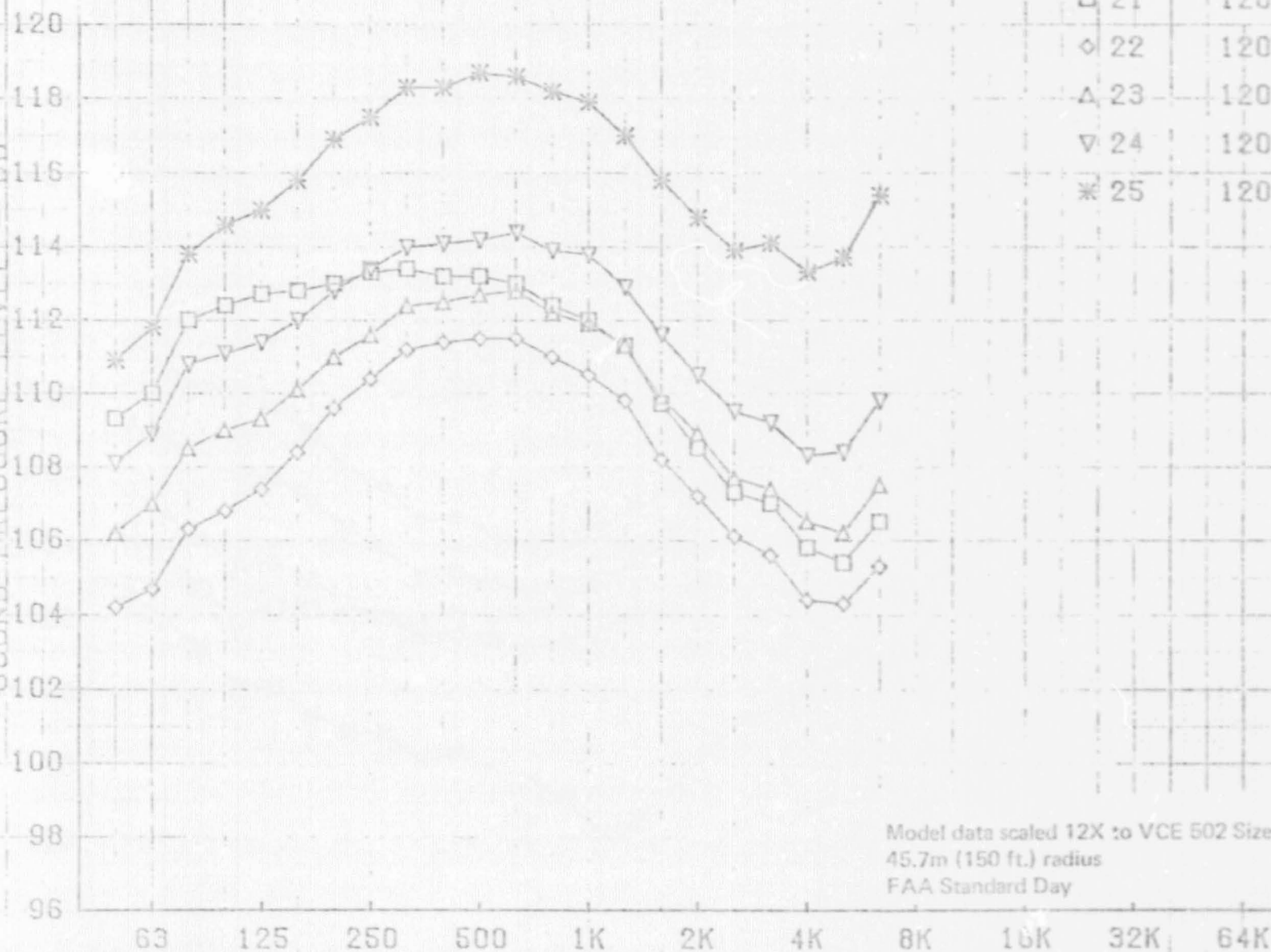
E-37



VCE TESTBED MODEL TEST PTS 21,22,23,24,25

MATRIX NO.	ANGLE (DEGT)
□ 21	120
◇ 22	120
△ 23	120
▽ 24	120
* 25	120

SOUND PRESSURE LEVEL - DB

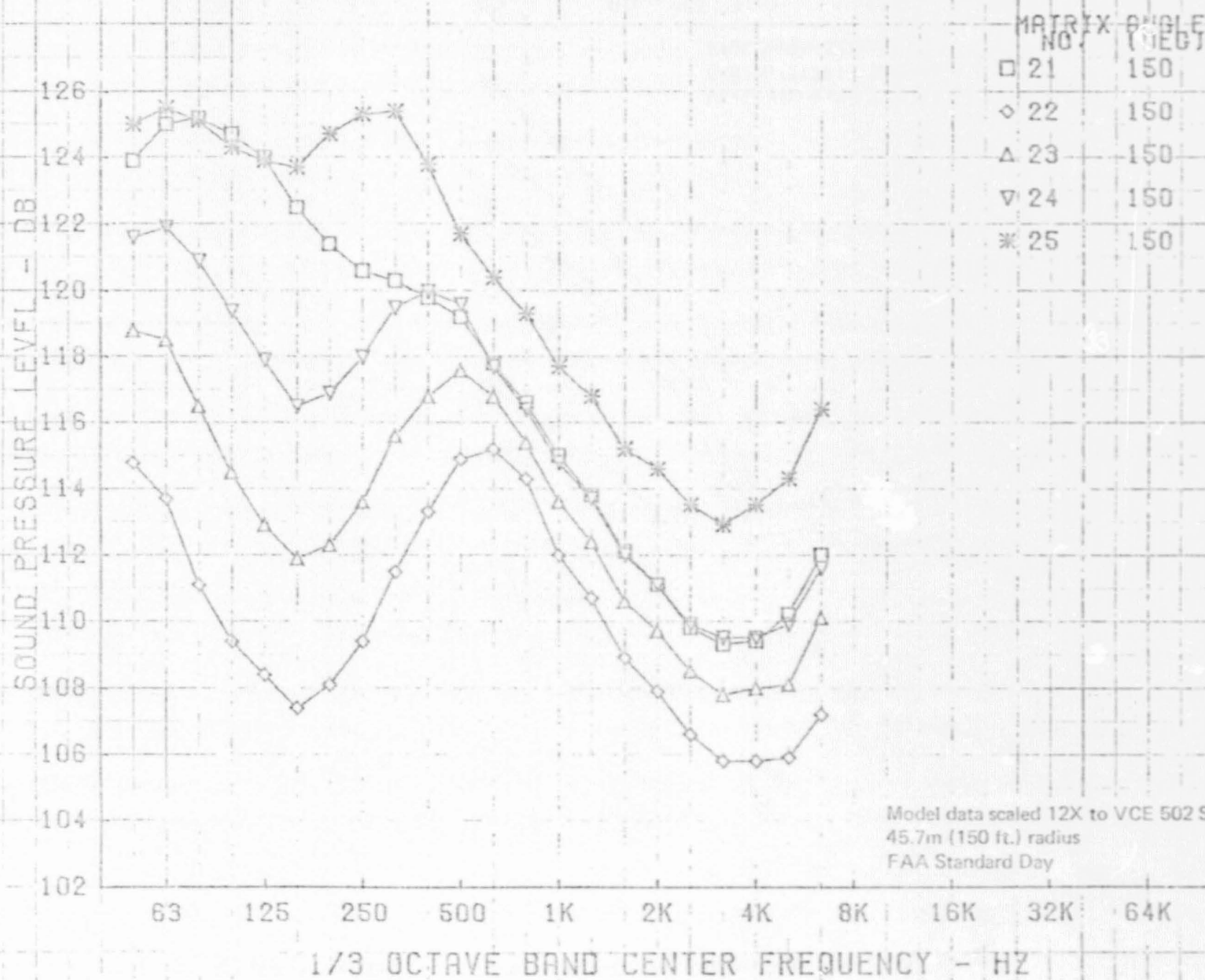


1/3 OCTAVE BAND CENTER FREQUENCY - HZ

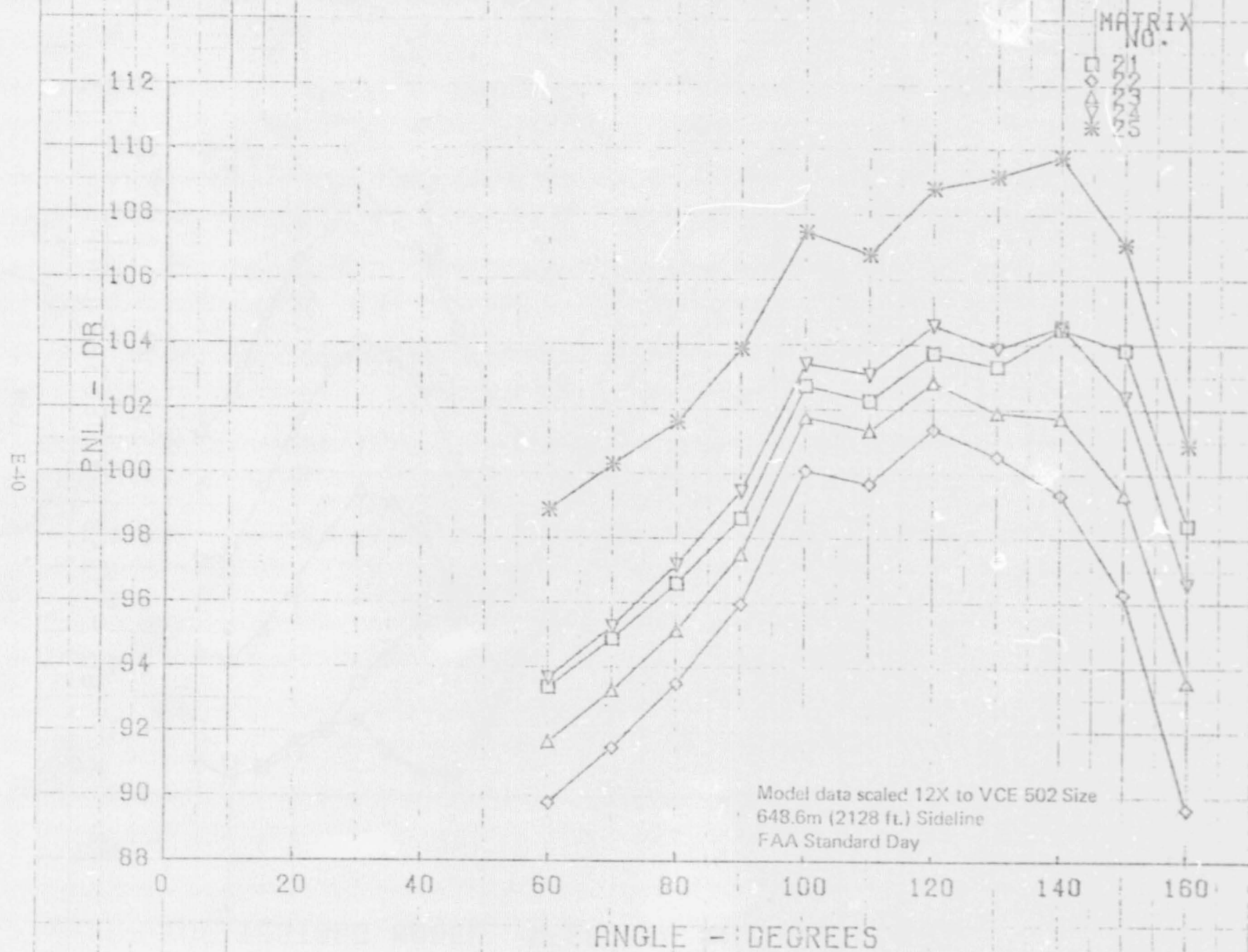
E-38

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VCE TESTBED MODEL TEST PTS 21,22,23,24,25



VCE TESTBED MODEL TEST PTS 21,22,23,24,25



C-3

VCE TESTBED MODEL TEST Pts 27,28

MATRIX NO.	ANGLE (DEG)
28	90
27	90

E-41

SOUND PRESSURE LEVEL - DB

90

92

94

96

98

100

102

104

106

108

110

112

114

63

125

250

500

1K

2K

4K

8K

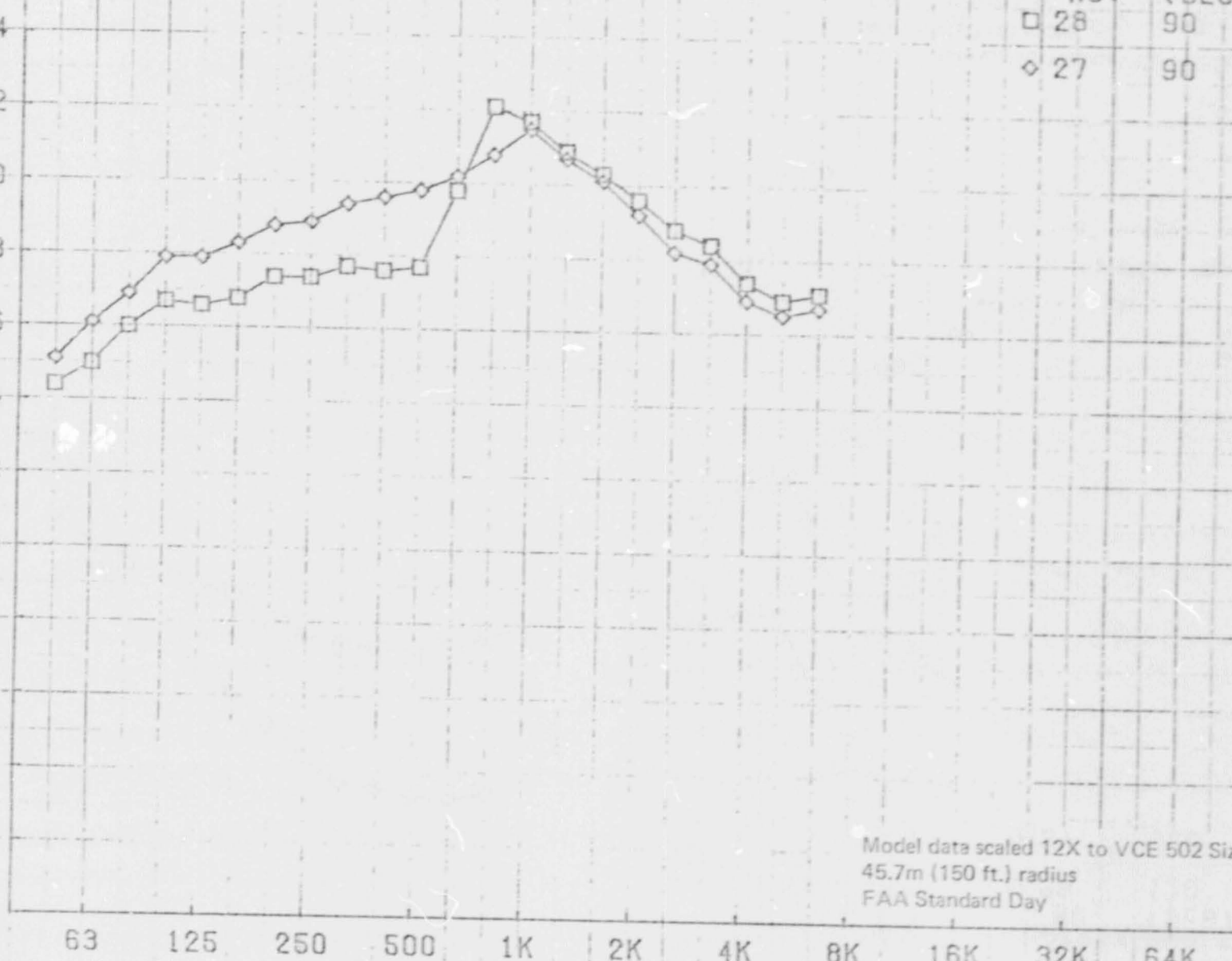
16K

32K

64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 27,28

MP NO.	RIX	ANGLE (DEG)
28		120
27		120

SOUND PRESSURE LEVEL - DB

120
118
116
114
112
110
108
106
104
102
100
98
96

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

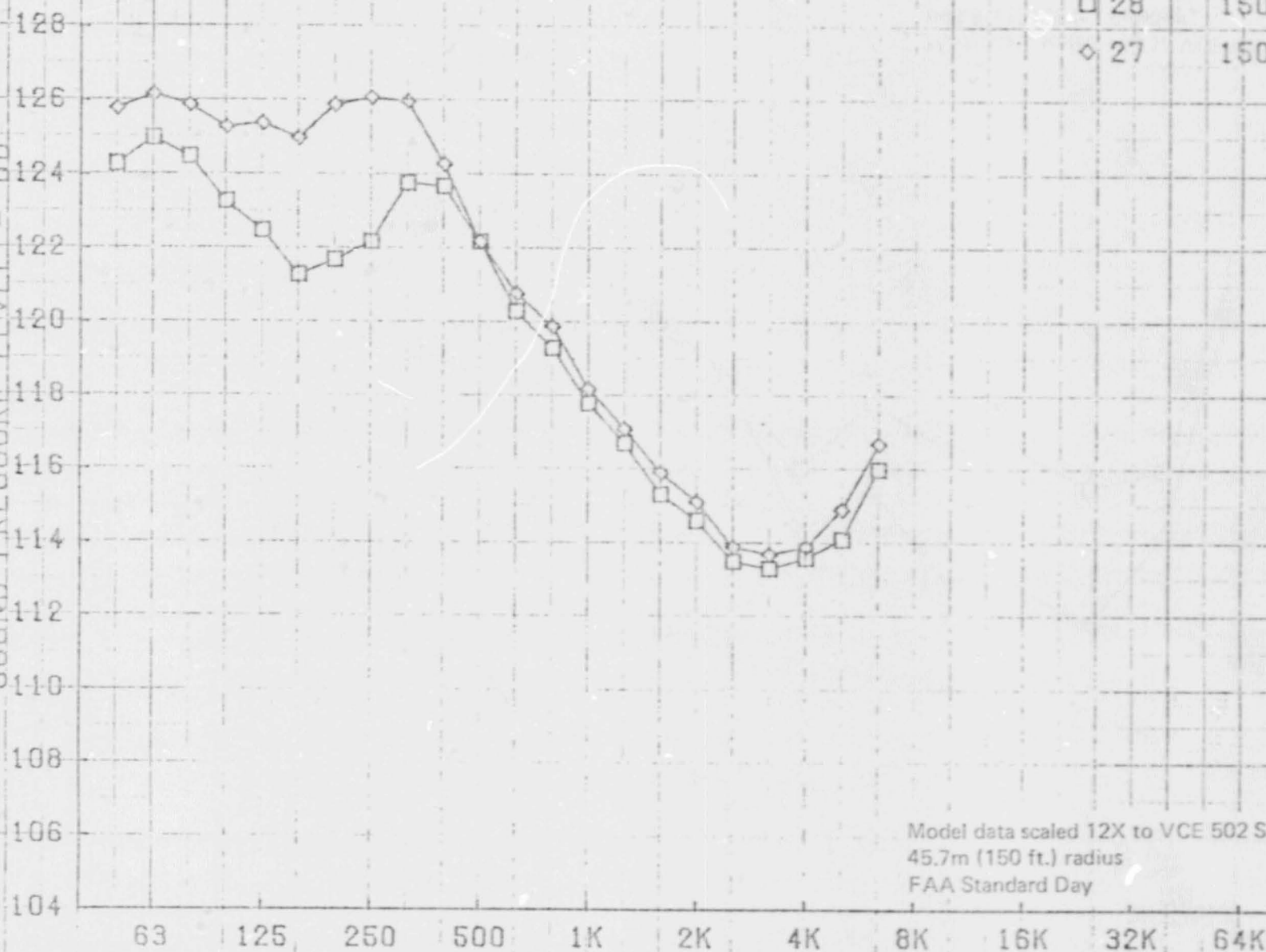
E-12

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VCE TESTBED MODEL TEST PTS 27,28

MATRIX NO.	ANGLE (DEG)
□ 28	150
◇ 27	150

SOUND PRESSURE LEVEL - DB



Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

VCE TESTBED MODEL TEST PTS 27,28

MATRIX NO.

28
27

PNL - DB

E44

OF POOR QUALITY

Model data scaled 12X to VCE 502 Size
648.6m (2128 ft.) Sideline
FAA Standard Day

0 20 40 60 80 100 120 140 160

ANGLE - DEGREES

116
114
112
110
108
106
104
102
100
98
96
94
92

116
114
112
110
108
106
104
102
100
98
96
94
92

VCE TESTBED MODEL TEST PTS 1E, 3E, 4E, 19E

MATRIX NO.	ANGLE (DEG)
1E	90
3E	90
4E	90
19E	90

SOUND PRESSURE LEVEL - DB

112
110
108
106
104
102
100
98
96
94
92
90
88

63

125

250

500

1K

2K

4K

8K

16K

32K

64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

E-45

U. S. GOVERNMENT PRINTING OFFICE

VCE TESTBED MODEL TEST PTS 1E, 3E, 4E, 19E

MATRIX NO.	ANGLE (DEG)
□ 1E	120
◇ 3E	120
△ 4E	120
▽ 19E	120

SOUND PRESSURE LEVEL - DB

63 125 250 500 1K 2K 4K 8K 16K 32K 64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day

ORIGINAL PAGE IS
OF POOR QUALITY

E-46

VCE TESTBED MODEL TEST PTS 1E, 3E, 4E, 19E

MATRIX NO.	ANGLE (DEG)
□ 1E	150
◇ 3E	150
△ 4E	150
▽ 19E	150

E-47

SOUND PRESSURE LEVEL - DB

63

125

250

500

1K

2K

4K

8K

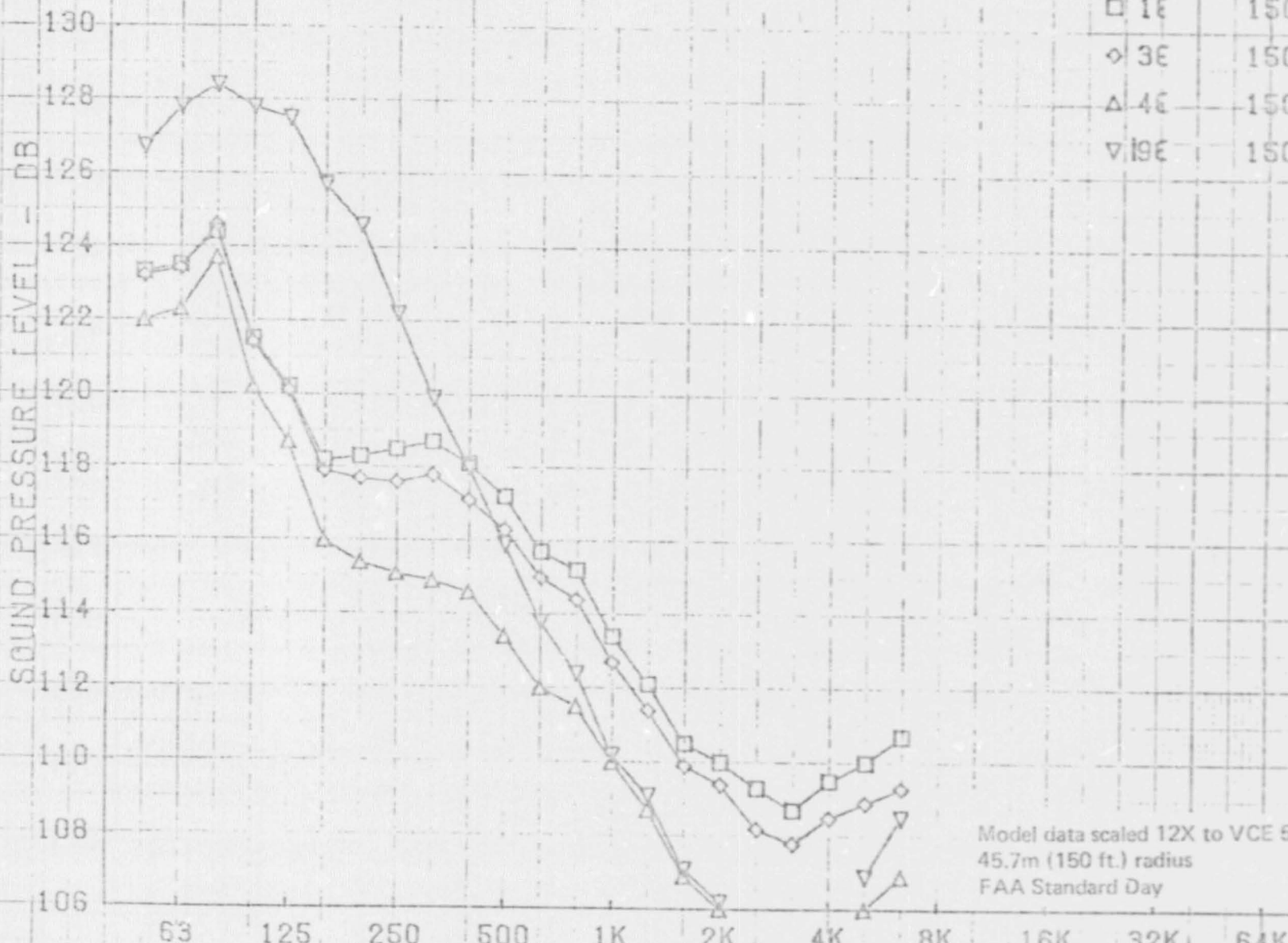
16K

32K

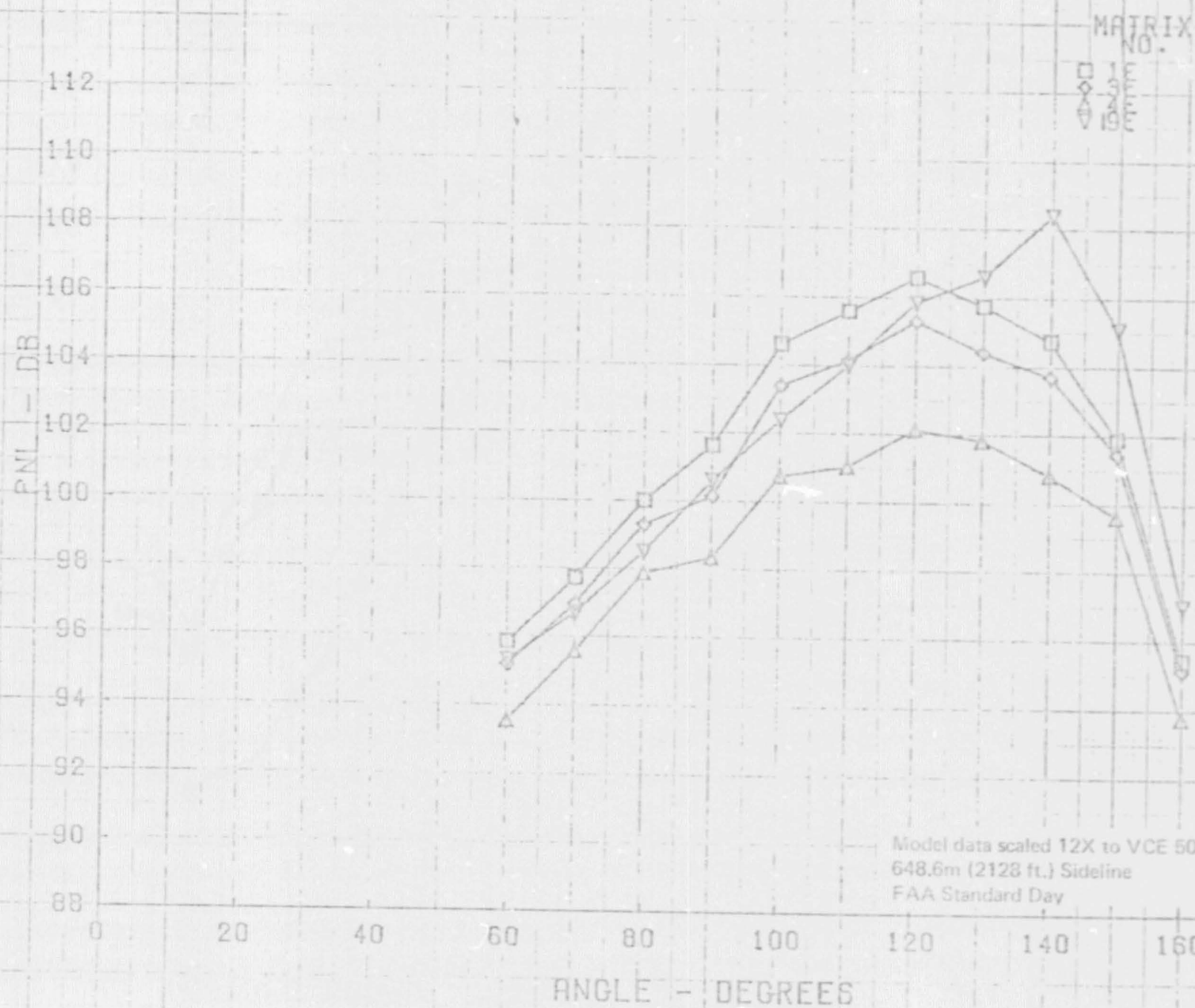
64K

1/3 OCTAVE BAND CENTER FREQUENCY - HZ

Model data scaled 12X to VCE 502 Size
45.7m (150 ft.) radius
FAA Standard Day



VCE TESTBED MODEL TEST PTS 1E, 3E, 4E, 19E



7.2

AERODYNAMIC
GRAPHICAL DATA

TRAVERSE DATA WITH EJECTOR

TRAVERSE DATA WITHOUT EJECTOR

Nozzle			Operating			Conditions		
PT/PA TTK (TTQr)			FAN 2.4 (1960)			PRIM 1.6 (1440)		
Radius CM (in)	Total Temperature K (°R)	Velocity M/Sec (ft/sec)	Radius CM (in)	Total Temperature K (°R)	Velocity M/Sec (ft/sec)	Radius CM (in)	Total Temperature K (°R)	Velocity M/Sec (ft/sec)
L=11.431CM (4.5 in)			L=29.210CM (11.5 in)			L=44.450CM (17.5 in)		
.513 (.202)	803 (1446)	445 (1461)	.503 (.198)	800 (1440)	447 (1466)	.500 (.197)	794 (1429)	445 (1461)
3.071 (1.209)	803 (1446)	450 (1475)	3.058 (1.204)	812 (1461)	452 (1482)	2.032 (.800)	797 (1435)	445 (1459)
5.118 (2.015)	921 (1657)	460 (1509)	5.448 (2.145)	879 (1582)	465 (1526)	3.579 (1.409)	809 (1456)	449 (1472)
5.613 (2.210)	955 (1719)	443 (1453)	6.124 (2.411)	869 (1565)	558 (1831)	5.098 (2.007)	826 (1486)	465 (1527)
6.124 (2.411)	981 (1766)	610 (2001)	6.866 (2.711)	808 (1454)	510 (1674)	6.624 (2.608)	774 (1393)	445 (1461)
6.637 (2.613)	902 (1624)	730 (2395)	7.653 (3.013)	651 (1171)	337 (1105)	8.146 (3.207)	644 (1160)	293 (960)
7.140 (2.811)	812 (1462)	546 (1790)	8.412 (3.312)	577 (1038)	214 (703)	9.677 (3.810)	489 (881)	136 (447)
7.650 (3.012)	644 (1159)	293 (962)	9.169 (3.610)	479 (862)	105 (346)	11.201 (4.410)	383 (689)	32 (105)
8.161 (3.213)	453 (815)	108 (354)	9.939 (3.913)	372 (669)	19 (63)	12.710 (5.004)	337 (607)	4 (12)
8.926 (3.514)	351 (631)	0 (0)	10.698 (4.212)	347 (625)	2 (8)			
L=58.928CM (23.2 in)			L=88.138CM (34.7 in)					
.498 (.196)	801 (1442)	443 (1455)	.500 (.197)	752 (1354)	433 (1419)			
2.530 (.996)	791 (1423)	445 (1460)	3.056 (1.203)	747 (1344)	430 (1410)			
4.597 (1.810)	792 (1426)	454 (1489)	5.606 (2.207)	693 (1247)	379 (1244)			
6.627 (2.607)	719 (1295)	399 (1308)	8.153 (3.210)	609 (1096)	200 (918)			
8.656 (3.408)	597 (1074)	255 (836)	10.606 (4.207)	533 (969)	177 (560)			
10.686 (4.207)	496 (892)	123 (402)	13.216 (5.203)	459 (827)	91 (299)			
12.705 (5.002)	397 (714)	32 (105)	15.857 (6.243)	388 (698)	31 (102)			
14.801 (5.827)	342 (616)	2 (6)	18.476 (7.274)	351 (631)	8 (26)			

NOZZLE PERFORMANCE DATA

WITHOUT EJECTOR

RUN 20

PT	PTF/PA	PTP/PA	CT	COF	CDP
4	1.81	1.64	.974	.930	.929
5	1.99	1.64	.973	.979	.924
6	2.19	1.63	.975	.978	.921
7	2.46	1.63	.977	.930	.934
8	2.82	1.64	.983	.930	.874
9	3.22	1.64	.978	.979	.856

RUN 24

PT	PTF/PA	PTP/PA	CT	COF	CDP
4	2.39	1.41	.975	.978	.837
5	2.38	1.61	.977	.977	.916
6	2.40	1.82	.977	.979	.939
9	2.36	2.07	.975	.977	.951
8	2.37	2.21	.974	.976	.962
9	2.38	2.40	.972	.977	.967

WITH EJECTOR

RUN 25

PT	PTF/PA	PTP/PA	CT	COF	CDP
4	2.38	1.42	.978	.975	.809
5	2.38	1.61	.930	.976	.924
6	2.37	1.83	.930	.975	.941
7	2.39	2.01	.973	.976	.956
8	2.38	2.21	.977	.972	.965
9	2.38	2.42	.976	.977	.938

RUN 26

PT	PTF/PA	PTP/PA	CT	COF	CDP
4	1.80	1.64	.975	.976	.932
5	1.96	1.64	.974	.977	.925
6	2.17	1.64	.978	.976	.923
7	2.37	1.64	.931	.977	.928
8	2.77	1.65	.936	.978	.830
9	3.15	1.65	.983	.976	.852

PRIMARY FLOW ALONE

RUN 16

PT	PTF/PA	PTP/PA	CT	COF	CDP
4	-	1.45	.930	-	.955
5	-	1.74	.934	-	.966
6	-	2.06	.985	-	.974
7	-	2.54	.937	-	.979
8	-	2.90	.934	-	.979
9	-	3.31	.980	-	.976

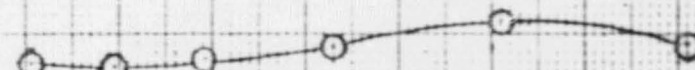
TESTBED MODEL WITHOUT EJECTOR

RUN 20

$$P_{EP}/P_a = 1.6$$

THRUST COEF ~ C_T

1.00
0.98
0.96
0.94



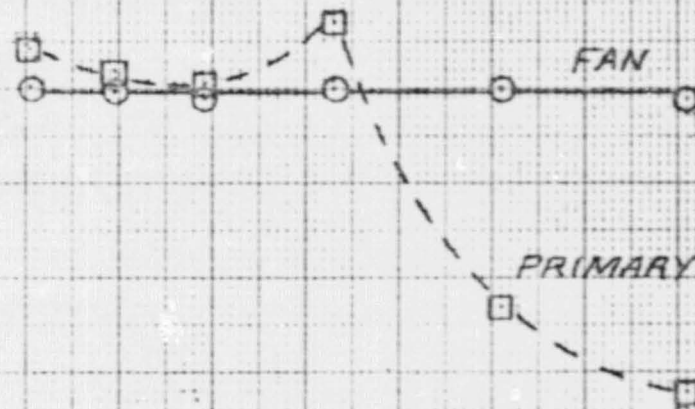
F-4

PRIMARY DISCHARGE COEF ~ C_{DP}

0.94
0.92
0.90
0.88
0.86
0.84

FAN DISCHARGE COEF ~ C_{DF}

1.00
0.98
0.96
0.94
0.92
0.90



FAN

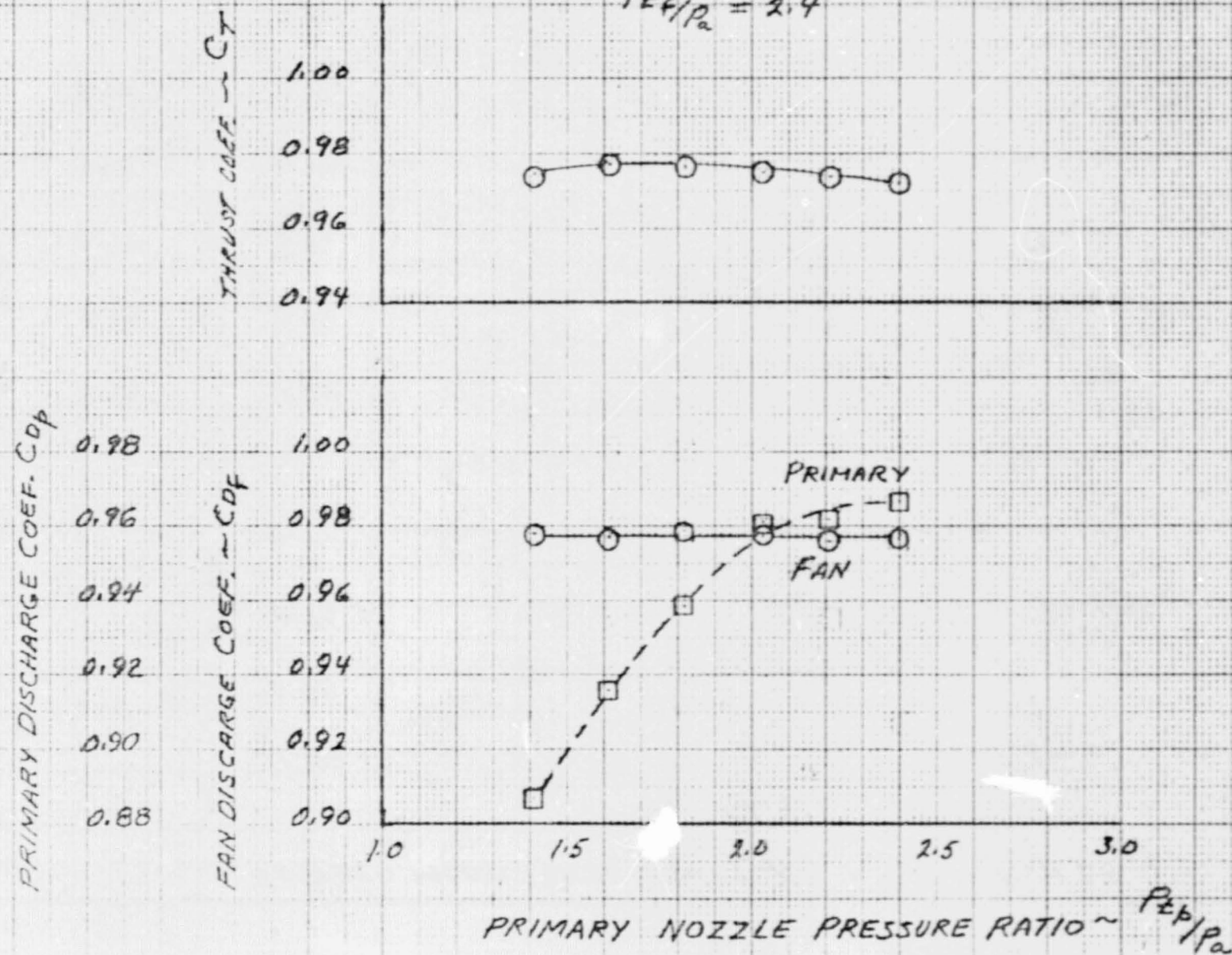
PRIMARY

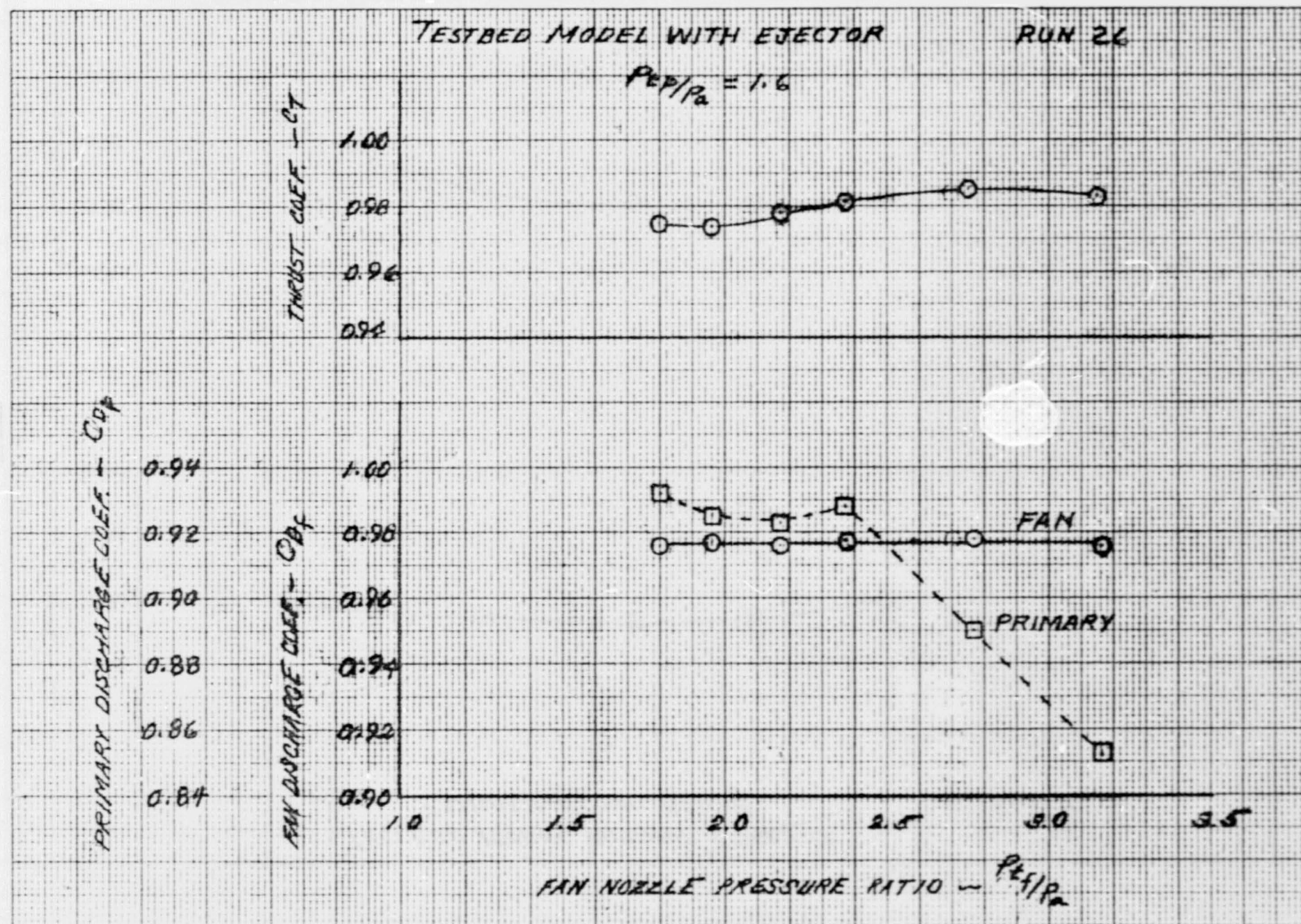
FAN NOZZLE PRESSURE RATIO ~ P_{EP}/P_a

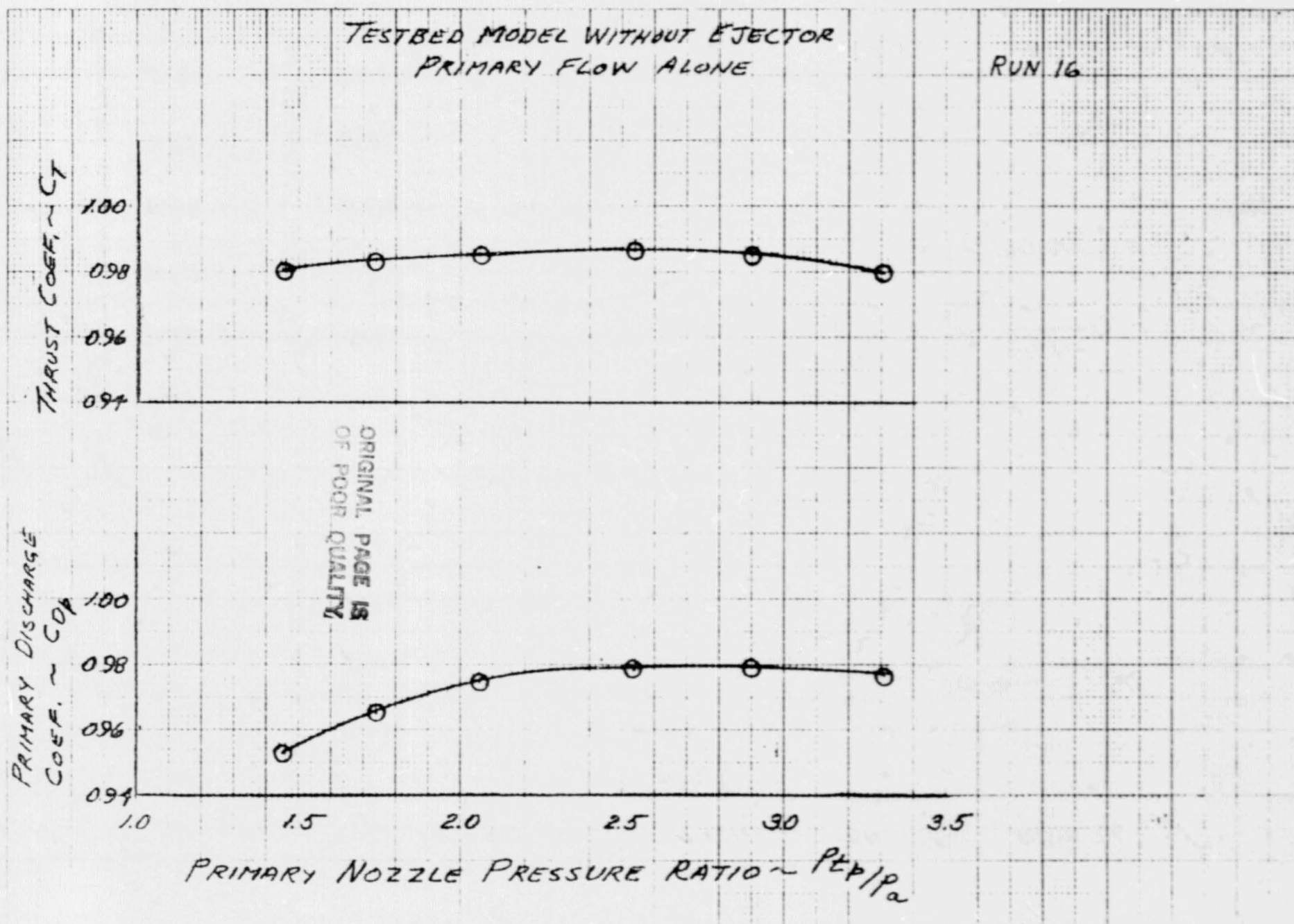
TESTBED MODEL WITHOUT EJECTOR

RUN 24

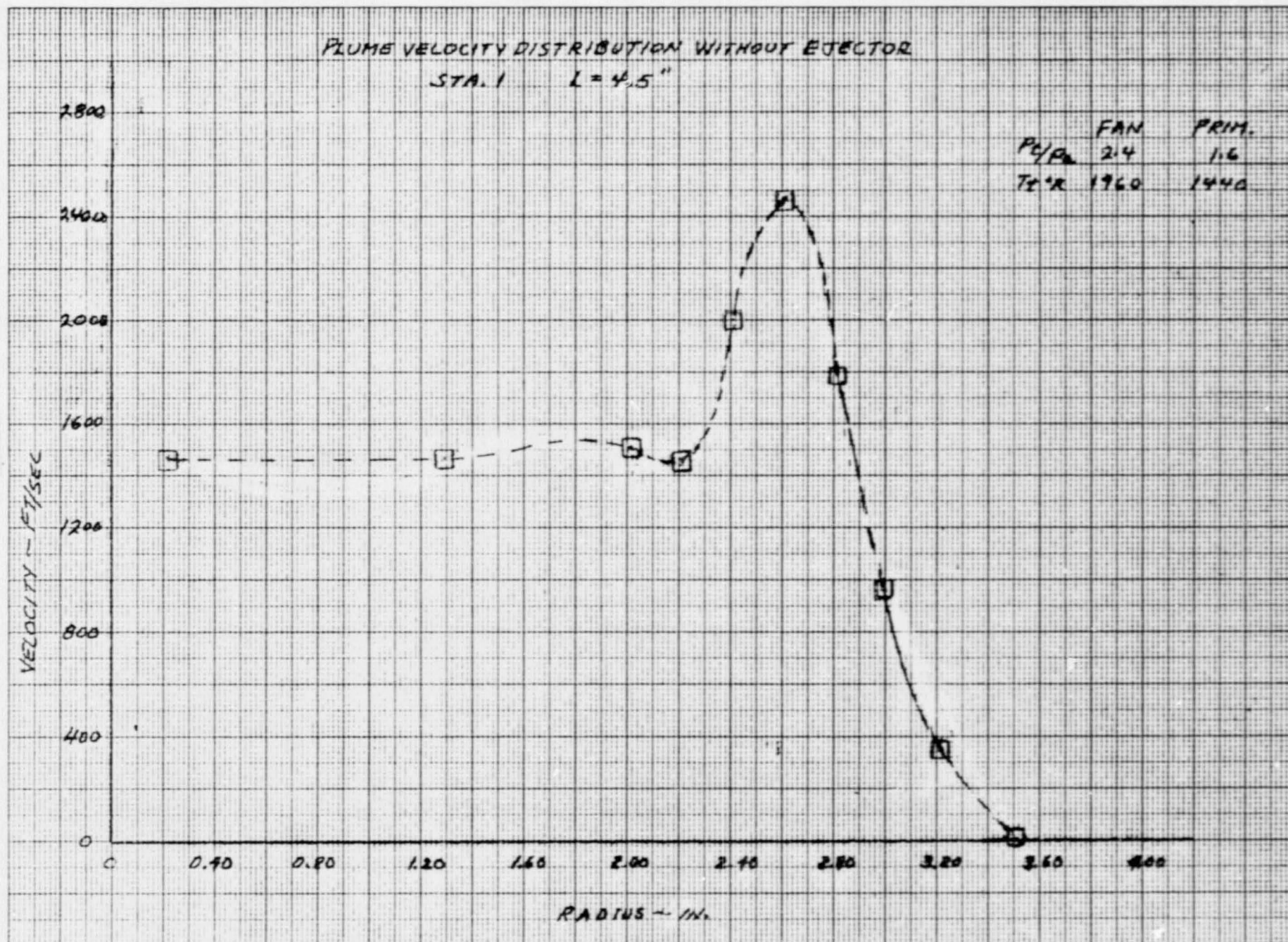
$$P_{t4}/P_a = 2.4$$







F-9



PLUME VELOCITY DISTRIBUTION WITH EJECTOR
STA. 1A $L = 7.28'$

	FAN	PRIM.
P_e/P_a	2.4	1.6
T_e °R	1960	1440

VELOCITY ~ F/SEC

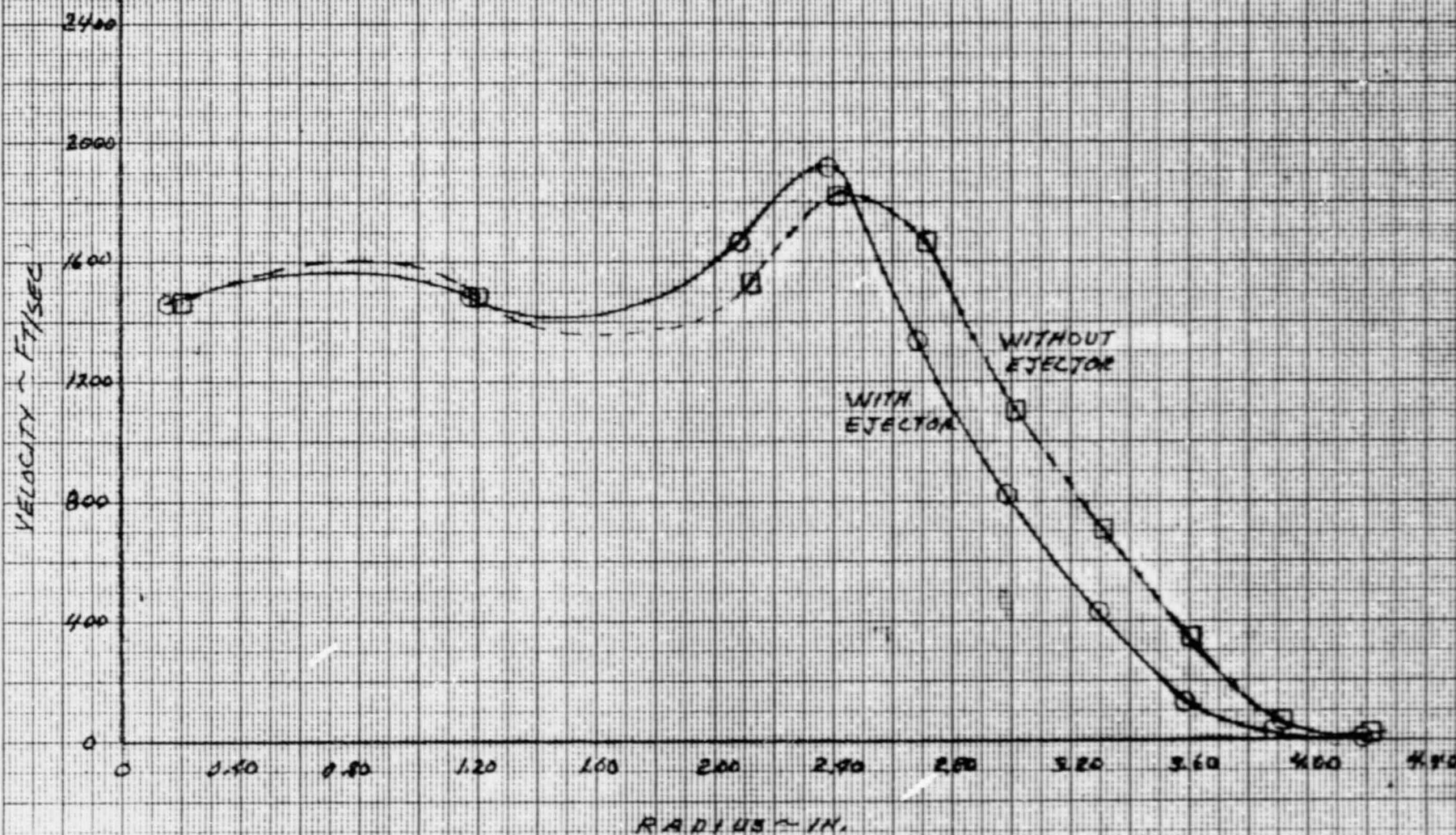
RADIUS ~ IN.

RADIUS (IN.)	VELOCITY (F/SEC)
1.40	1500
2.00	1800
2.40	2400
2.60	1800
2.80	1100
3.00	650
3.20	350
3.40	100
3.60	0

PLUME VELOCITY DISTRIBUTION

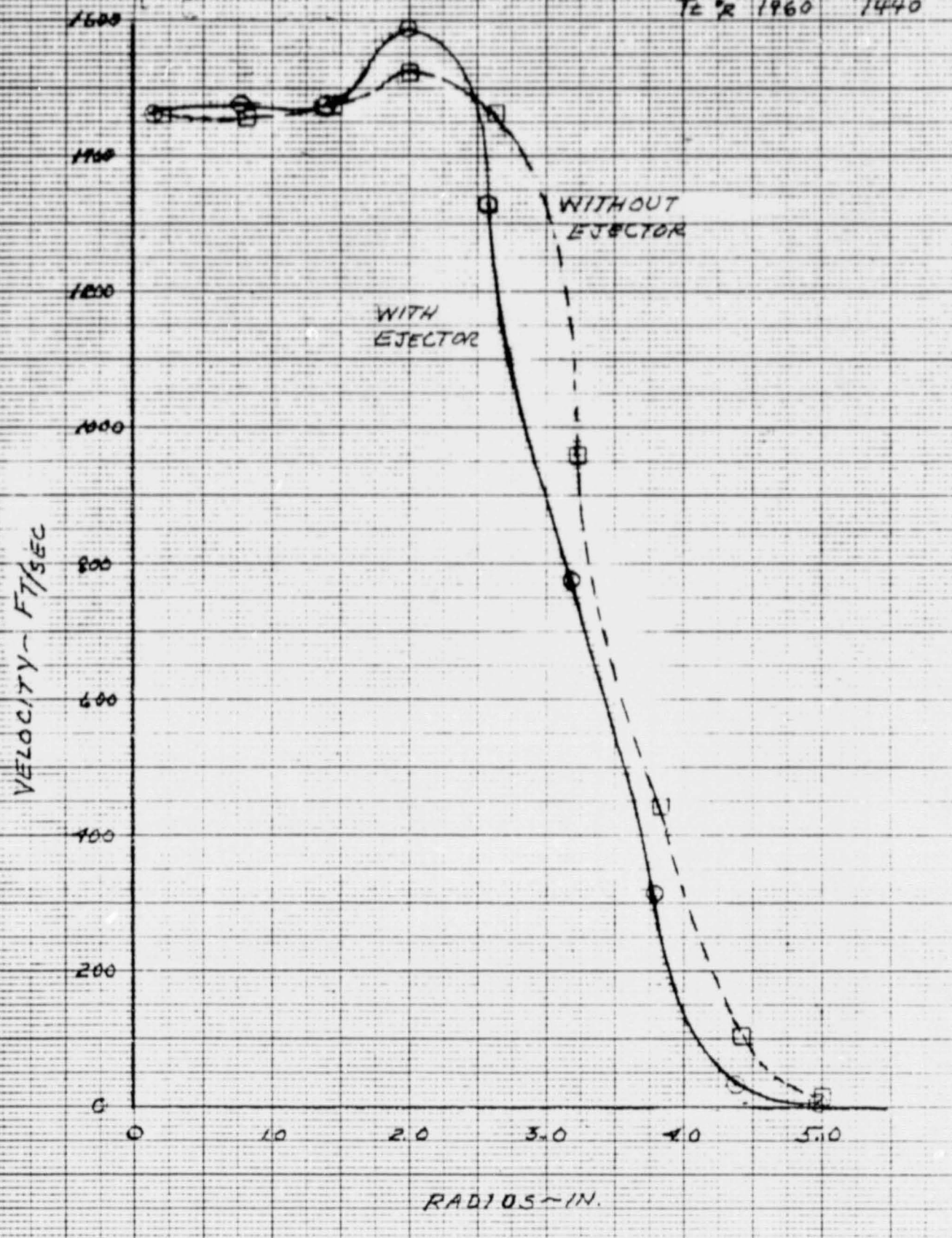
57A.2 L = 11.5"

	FAN	PRIM
P_1/P_2	2.4	1.6
$T_2^{\circ}R$	1960	1440



PLUME VELOCITY DISTRIBUTION
STA-3 L=17.5"

	FAN	PRIM
P_2/P_0	2.4	1.6
T_2/T_0	1960	1440



PLUME VELOCITY DISTRIBUTION

STA. 4

L = 23.2"

FAN

PRIM

P_2/P_1

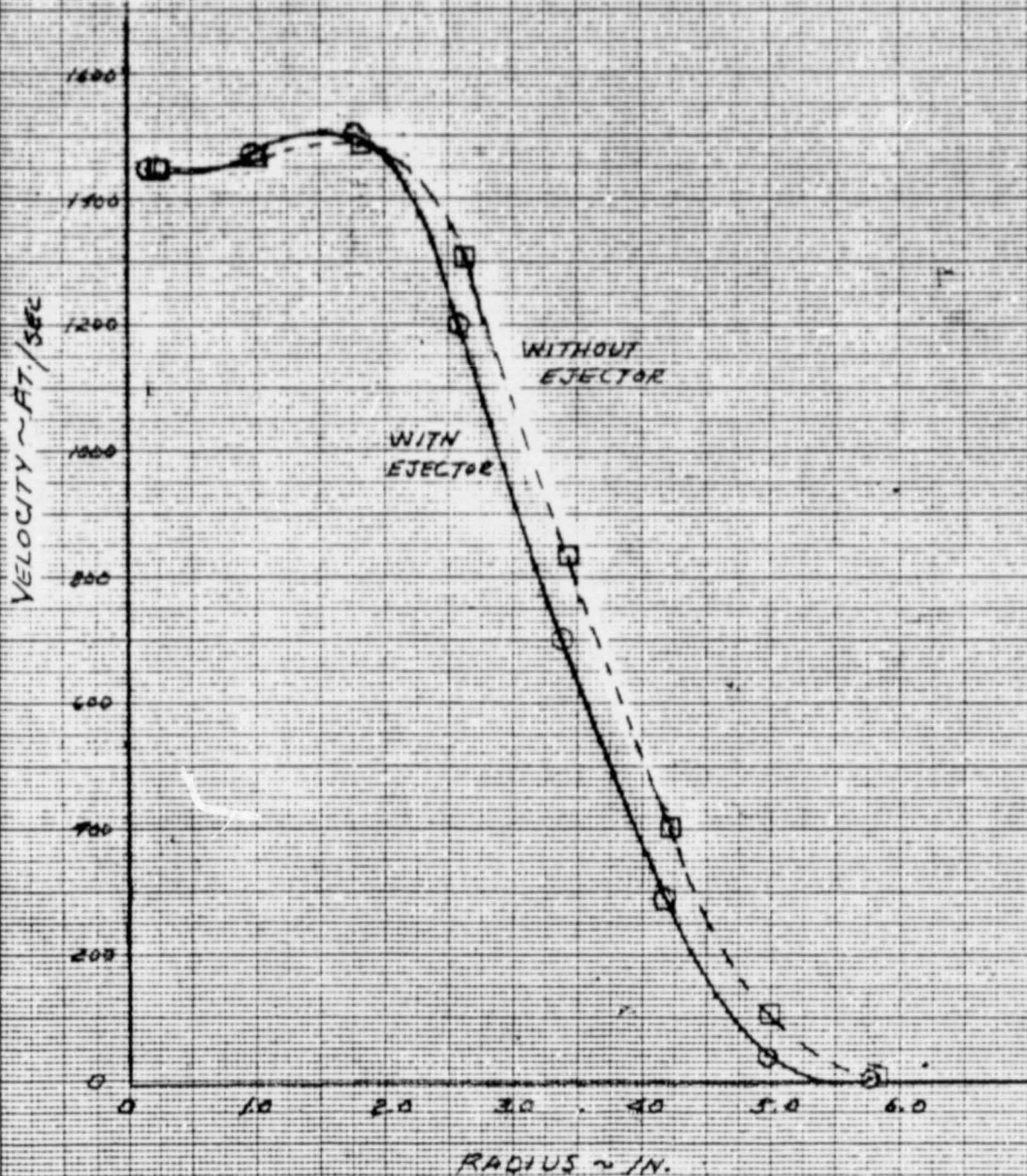
2.4

1.6

$T_2^{\circ}R$

1960

1440

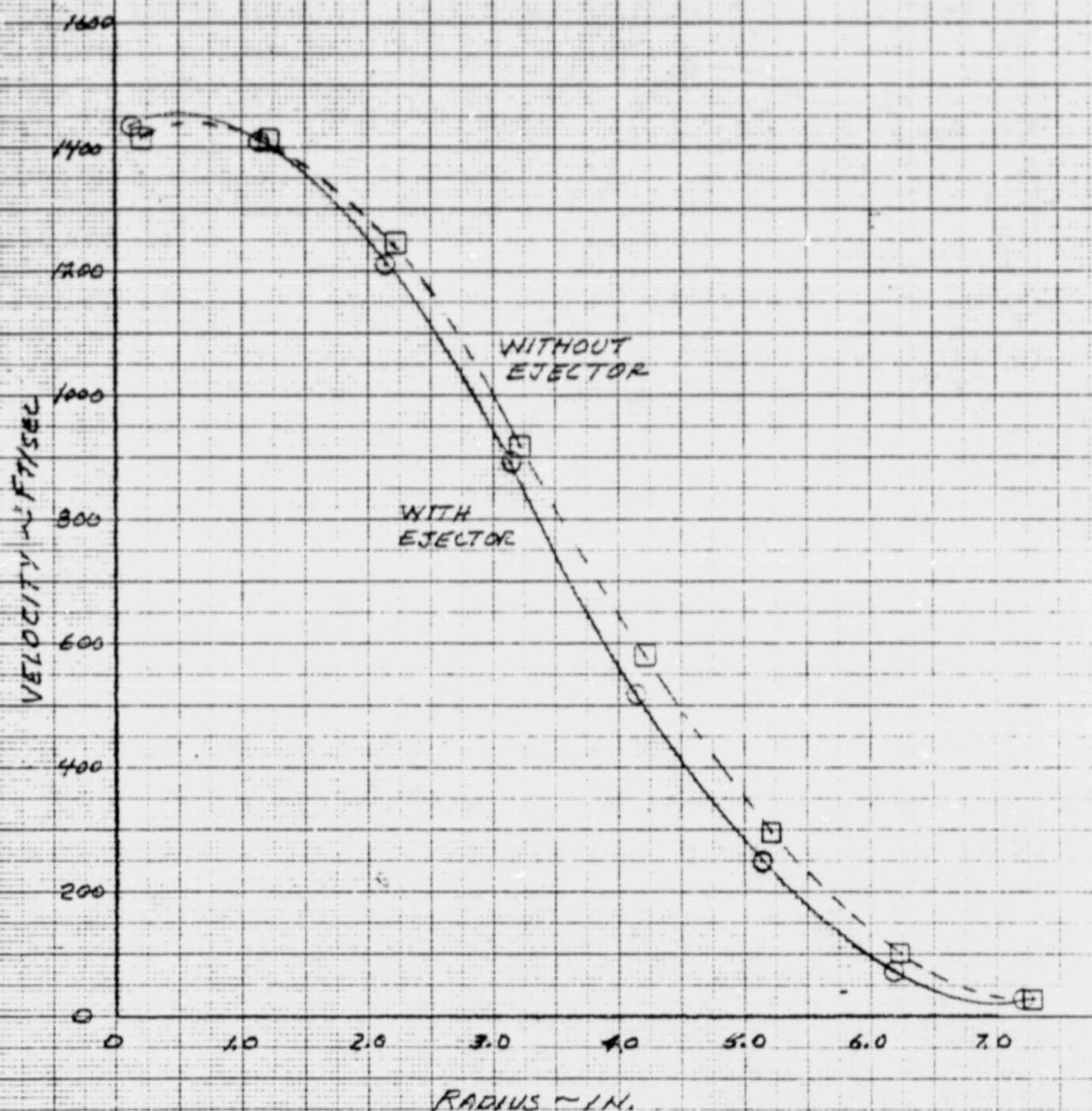


PLUME VELOCITY DISTRIBUTION

STA. 5

$L = 34.7''$

	FAN	PRM
$P_{E/Pa}$	2.4	1.6
T_e	1960	1440

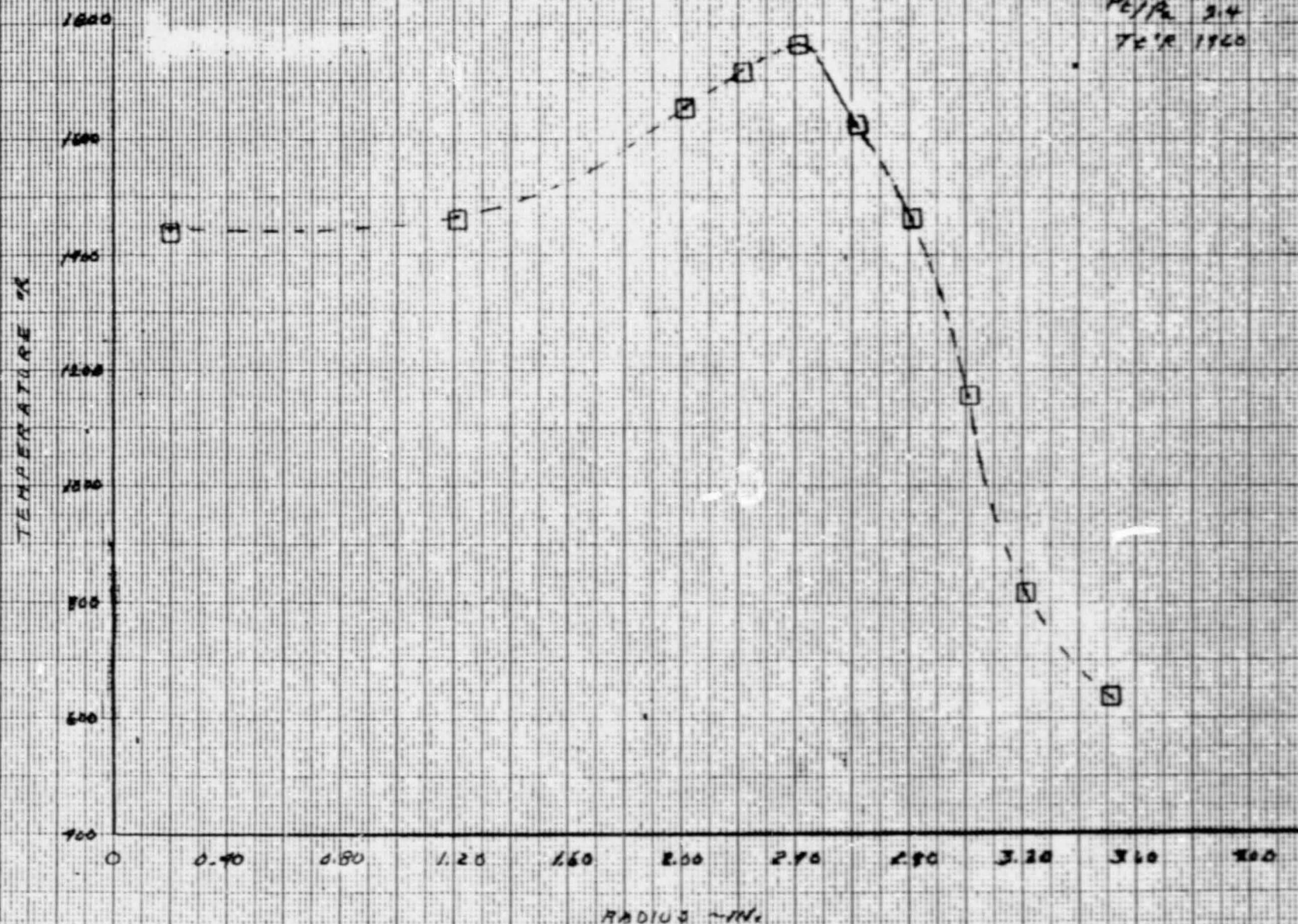


PLUME TEMPERATURE DISTRIBUTION - WITHOUT EJECTOR

STA. 1

$L = 4.5''$

	FAN	PRIM
P_2/P_1	3.4	1.6
T_2/T_1	1920	1440

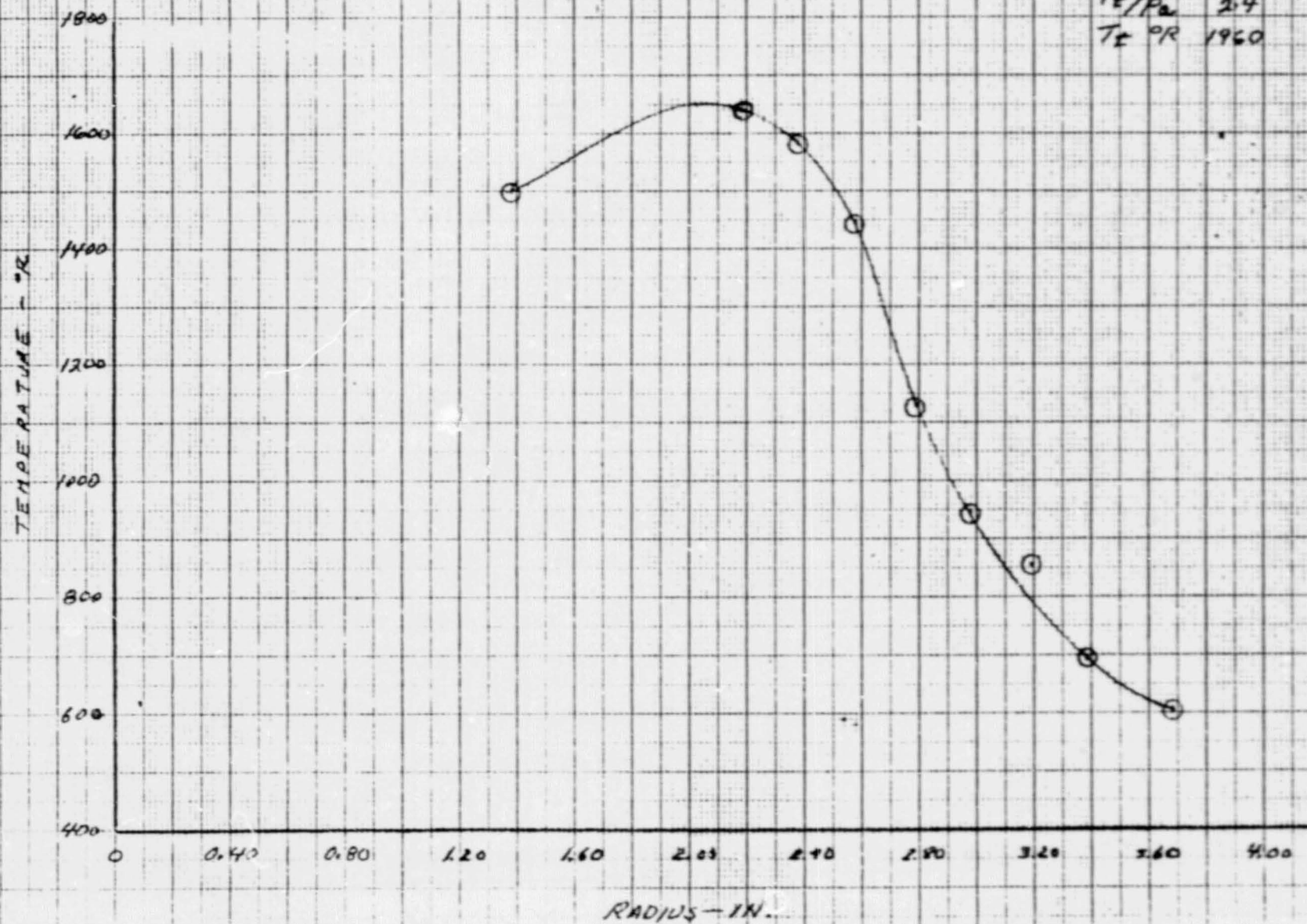


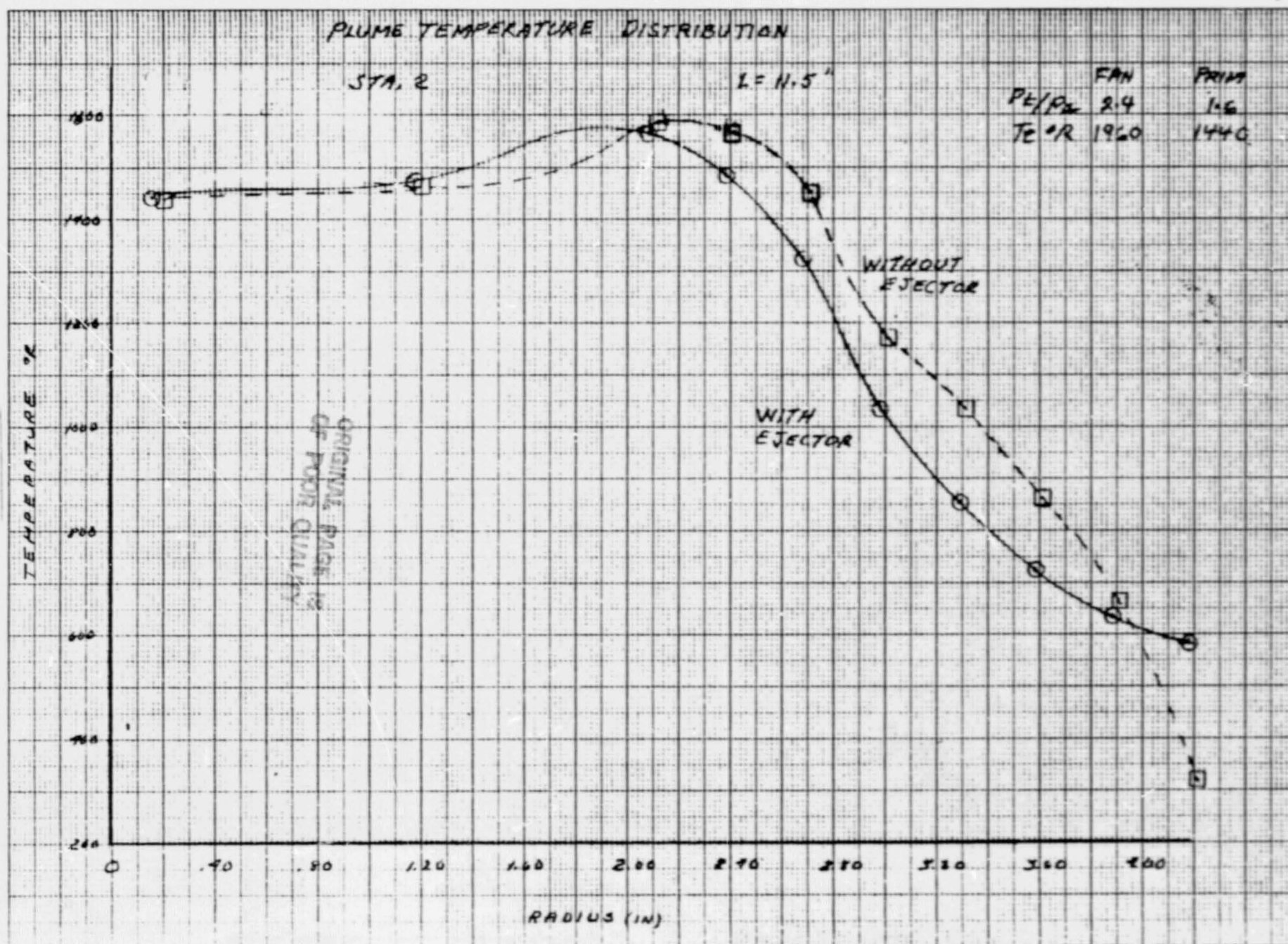
PLUME TEMPERATURE DISTRIBUTION - WITH EJECTOR

STA. 1A

 $L = 7.28''$

P_E/P_∞	FAN	PRIM.
T_E °R	2.4	1.6
	1960	1440





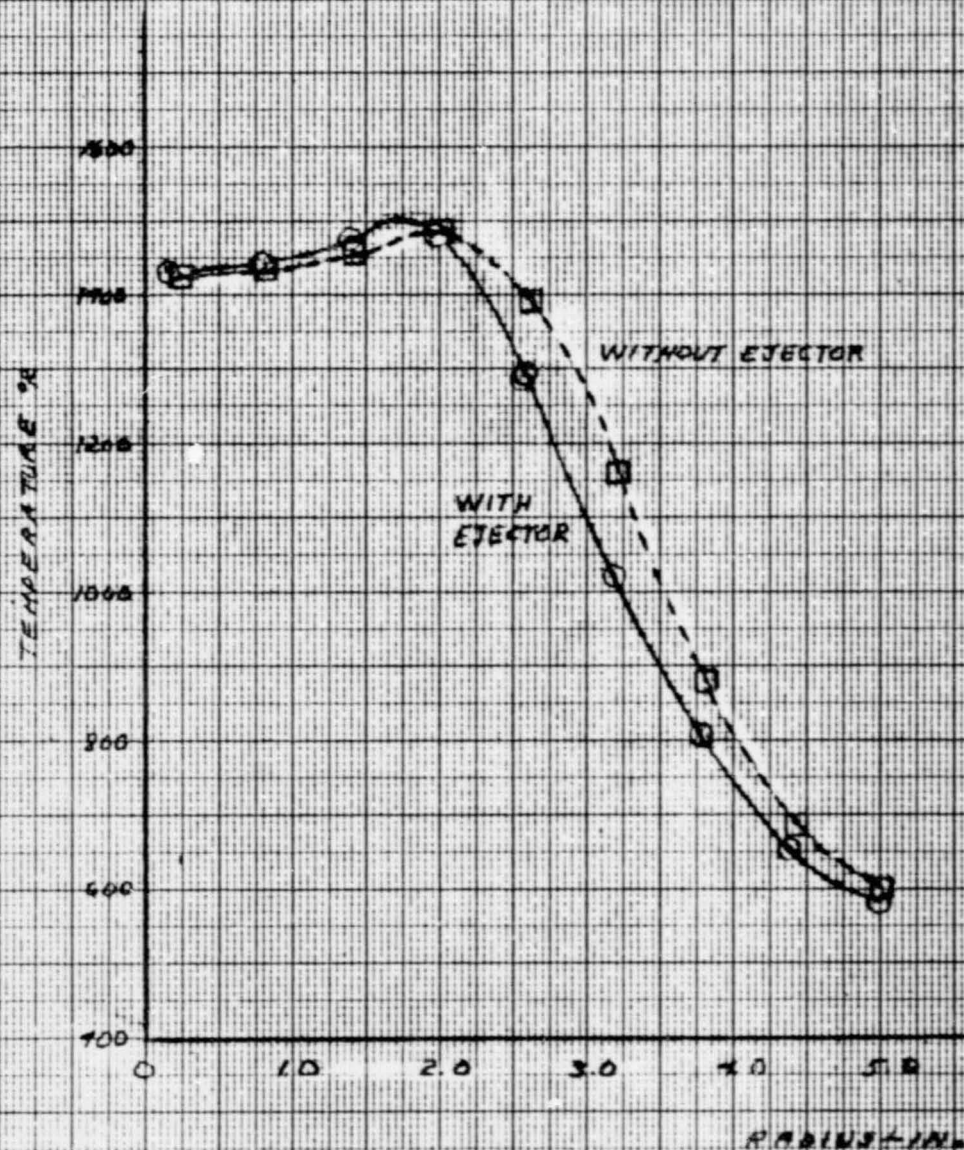
STATION 2

PLUME TEMPERATURE DISTRIBUTION

STA. 3

$L = 17.5''$

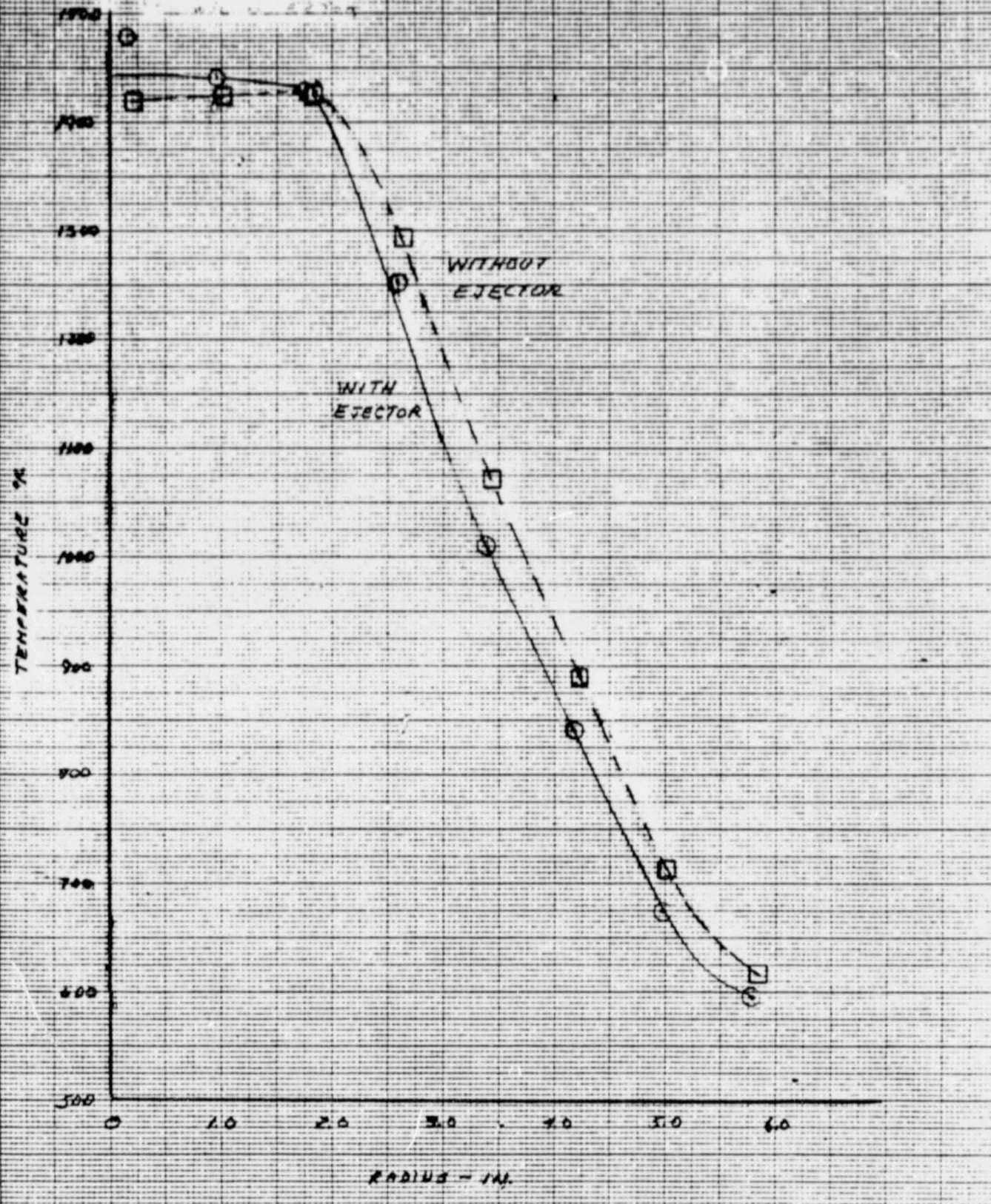
P_t/P_a	FAN	FRONT
8.4	1.6	
T_c/R	1900	1440



PLUME TEMPERATURE DISTRIBUTION
STA. 4

$L = 23.2"$

P_t/P_a	FAN	PRIM
2.4		1.6
T_c °R	1960	1440



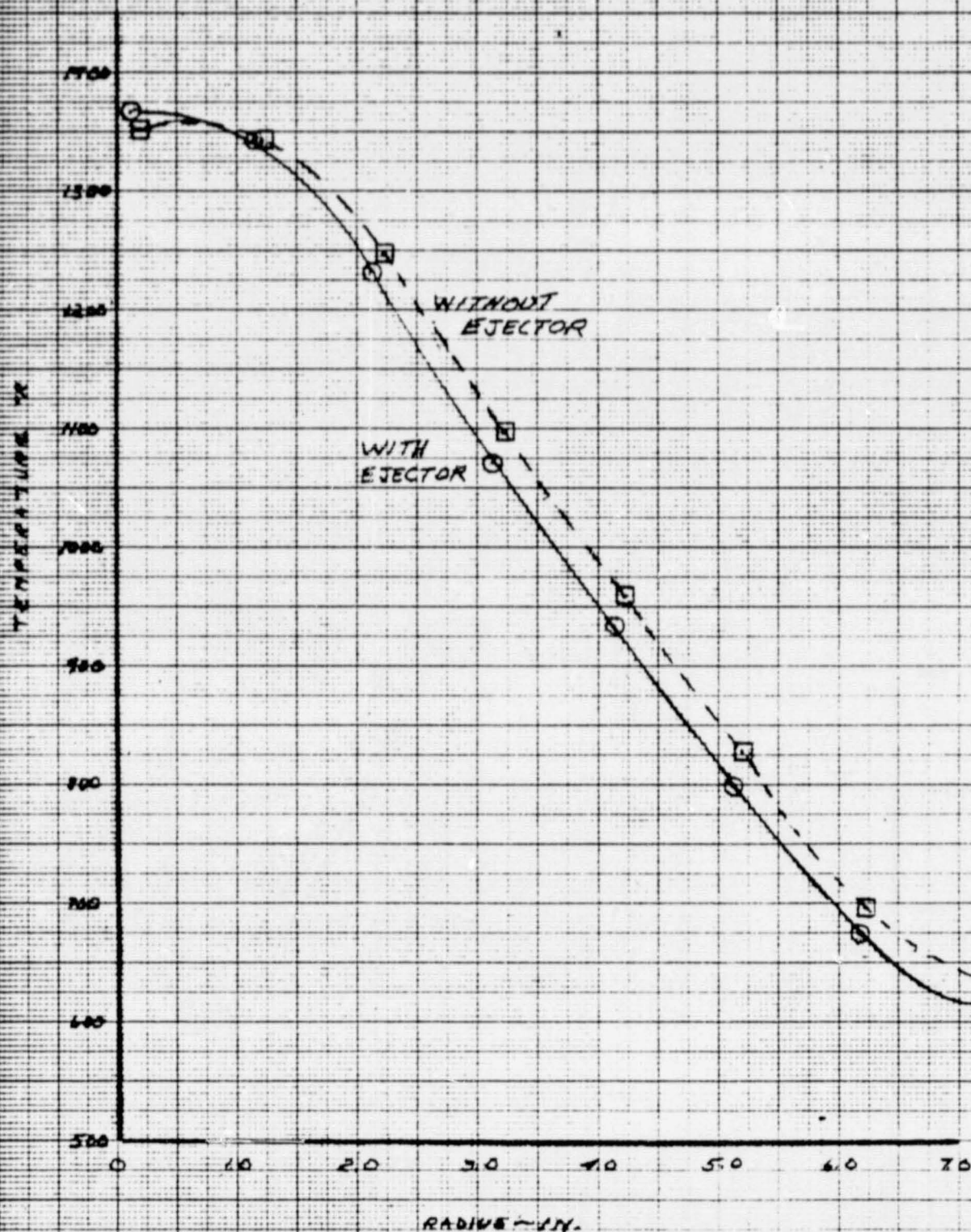
PLUME TEMPERATURE DISTRIBUTION

STA. 5

$L = 34.7''$

P/P_0 2.14
 $T_c^{\circ}R$ 1960

FWW
1.6
1440



LIST OF SYMBOLS

A	Area	r	Radius
ASF	Area scale factor	R	Radius ratio
C	Acoustic velocity	Ref	Reference
C-D	Convergent - divergent	S	Scale factor
C _D	Discharge coefficient - actual weight flow/ ideal weight flow	SL	Sideline
C _T	Thrust coefficient - actual thrust/ideal thrust	SPL	Sound Pressure Level
D	Diameter	T	Temperature (Static with no subscript, total with "t" sub- script
f	Frequency	V	Velocity

SUBSCRIPTS

F	Thrust	a	ambient
Hz	Hertz	f	fan
K	Kelvin	j	jet
L	Length	o	initial conditions
OAPWAL	Overall Power Level	p	primary
OASPL	Overall Sound Pressure	s	static
P	Pressure	t	total